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ABSTRACT

One of a series of studies on the development of technical and vocational education in the member states of UNESCO, this report profiles the educational system in Thailand. The eight parts of the document provide information about the following: educational policy, training modes and systems, planning and management of the technical vocational education and training system (TVET), financing the TVET, cooperation between the public and private sectors, statistics, women in technical and vocational education policy development, and key TVET institutions. Some of the highlights of the information include the following: (1) about 80 percent of the population of Thailand lives in rural areas; (2) the literacy rate is about 93 percent; (3) the society is becoming more urban; (4) the TVET structure consists of a main central office and TVET institutions; (5) a certificate in vocational education takes 3 years (6 semesters) to complete, whereas a diploma program takes 4 semesters; (6) departmental and institutional cooperation is stressed; and (7) women are encouraged to seek employment in a variety of occupations, although there are obstacles to their doing so. The bibliography contains 32 references. (KC)

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ED 399 380

NATIONAL PROFILES IN TECHNICAL AND VOCATIONAL EDUCATION IN ASIA AND THE PACIFIC

Thailand

UNEVOC
International Project on Technical and Vocational Education

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NATIONAL PROFILES IN TECHNICAL AND VOCATIONAL EDUCATION IN ASIA AND THE PACIFIC

Thailand

UNESCO PRINCIPAL REGIONAL OFFICE FOR ASIA AND THE PACIFIC, BANGKOK, 1995

This volume is one of a series of member country profiles on Technical and Vocational Education of the following member countries:

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FOREWORD

Technical and vocational education has always been an important component of UNESCO's consecutive Medium Term Plans. The basic objective of this programme is to support the efforts of Member States to link education systems more closely to the world of work and to promote the expansion and improvement of technical and vocational education in the light of changing employment needs.

The Colombo Plan Staff College for Technician Education (CPSC) also dedicates itself primarily to enhancing the growth and development of the technician education systems in its member countries which are located in the Asia and Pacific region. Its programmes, projects and activities are geared to provide the needed impetus for the professional development of senior level personnel involved in technician education development efforts.

UNESCO has launched an International Project on Technical and Vocational Education (UNEVOC) as of 1992 in co-operation with the Government of Germany, ILO, FAO, UNDP and NGOs interested in the reform of technical and vocational education. This project focuses on exchanging information, research and experiences on policy and programme issues in technical and vocational through a network of co-operating institutions.

In a spirit of co-operation between UNESCO and CPSC, under UNEVOC, an attempt is being made to compile and publish studies on the development of technical and vocational education in Member States in the form of TVE profiles of 21 countries. It is hoped that this series will serve as a handy reference information on TVE systems, staff development, technical co-operation and information networking. These studies have been possible because of the full co-operation to UNESCO PROAP and CPSC by all concerned in the Member States.

The opinion expressed in this study are those of the authors and do not necessarily reflect the position of UNESCO and CPSC in this regard. This profile on Thailand was prepared by Dr. Gobporn Intrakamhaeng, Seconded Faculty Member to CPSC by the Government of Thailand.

C.K. Basu
Director, CPSC

Victor Ordonez
Director, UNESCO PROAP

Part I

POLICY CONCERN

1.1 Introduction

Thailand has a long-established society with strong tradition, deeply rooted culture and ingrained sense of freedom. Freedom of expression: in personal life, in business, in the press, and even in politics; has characterized Thailand over the centuries. The nation also possesses a unique institution, "the Monarchy," that provides Thais with a special sense of unity and identity. This pillar of Thai society provides the Thai people with an inborn awareness of the importance of respect and has proven again and again to be an indispensable stabilizing force in times of political or social turmoil.

In Thai society, about 80 per cent live in the rural areas. The literacy rate in 1992 stood at 93 per cent of 56.7 million population inhabiting 513,115.02 square kilometres of land. It is a developing economy with a GDP per capita income of US$1,900 (48,501 Baht) (Educational Statistic, 1992). The population rate increased to about 1.4 per cent in 1991. Thai quality of life and income distribution indicates that 23.7 per cent had an income below the poverty line in 1988 and the majority was in the rural areas. The poverty in urban areas was about 5 per cent. The range between the richest and poorest was about 12 times. Basic education upto grade 6 is compulsory that supplies the large sum of manpower to the workforce.

The rapid growth of economic structure from agriculture to manufacturing has effected the Thai society in changing the structure of rural society to be more urban. The way of living is also adjusted from the old Thai style to the modern style of independent family. The changing society brought many social problems. Though the crime rate has decreased from the last ten years but the trend of complexity of serious crimes has increased. The drug problem also increased 2.8 times in the last ten years. Furthermore, the slum problem is widespread in the urban areas. The natural resources are utilized at a high rate which damage the forest area and the environment. The problems of pollution continue to increase which in effect affect the quality of life.

The national religion is Buddhism, which is professed by 95 per cent of the Thais. The remaining are: 4 per cent Muslims; 0.5 per cent Christian; and 0.5 per cent Brahman, Hindu, Sikh and others. The national and official language is Thai. Chinese is spoken among urban ethnic Chinese; Malay is spoken in the Southernmost provinces while the minority hill-tribes of the north speak more than

six dialects. English is fairly widely spoken by the higher level of staff in government offices and large commercial enterprises.

Thailand's economic atmosphere continues to move forward dynamically in financial, in trade and in investment terms which is opening Thai economy to the international economic system. According to the sixth national economic and social development plan of Thailand (1987-1991), the Thai economy expanded over 16 per cent and continuously expanded at the average rate of 10.5 per cent during the plan period especially in 1987-1988. Economic development increasingly diversified. Dependence on the production and export of a narrow range of primary commodities (namely rice, rubber, teak and tin) became a thing of the past as agriculture diversified and the manufacturing sector grew to double the contribution to GNP over agriculture. (See Table 6-2) Thai manufactured products like textile, processed food and other items became well known into the world market. Tourism also became a major industry. The inflation rate increased at an average of 5 per cent during the sixth year plan.

According to rapid economic growth in Thailand, the requirement of qualified workers has become more and more pronounced. During the last two decades, there has been a marked growth in modern science and technology which had a major effect in setting new national goals of economic and social development. Educational development came to be the main function to develop manpower resources for the economy and society. Since 1972 all education levels progressed to bring about social betterment and to promote economic and social life and also emphasized preparation of the population to move the country onwards to modern age of science and technology. The main targets stressed related to: the population control; reducing the difference in rate of amount and quality of education among employed persons in the workforce. Vocational and non-formal education were the key to develop the manpower supplied to meet the needs of an expanding economy and demands of the job market. By improving manpower quality and increasing the efficiency of the workforce, the National Education Scheme was reformed in 1977 and put into force in 1978 as shown in Diagram 1.1. The Area Vocational Centres were set up in 1982-1986 to service pre-vocational education for students in Comprehensive Secondary Schools in 12 education regions. The public and private corporation committees for economic and vocational education development of middle manpower were set up in 1982. The results of the first decade showed that educational development achieved increased in enrolment of every level of education and had increased a number of educated persons in the workforce (see Table 6-4). The economy slightly moved forward. The continuing imbalance between the manpower needs and the manpower supply from education system still remained. The over supply of vocational education graduates was recognized. The level of unemployment increased every year. The problem was that the private firms preferred to employ unskilled persons with low pay. The feedback of the workforce was that the skilled manpower supply from the education system was not directly related to the skills of the market. So in the second decade, improving manpower skills to meet the market demand was emphasized and the quality of productivity was stressed. The results indicated that

the private firms accepted to employ more skilled manpower and the economy moved forward dynamically in high quality of productivity for export. In various industries, investment rose, the exports were widely opened to the world market and the tourism boomed. The economic growth resulted in the GDP reaching the highest rate of 16.66 per cent in 1987/1988. The unemployment rate decreased to 1.9 per cent in 1989 (see Table 6-3). Shortage of manpower in science, technology, engineering and technicians in some areas was experienced. The increasing rate of import of manpowers from other countries was experienced, this was about 16.47 per cent in 1991. The manpower from public sector, especially from Technical College transferred to private sector because paying rates were higher. Many Technical Colleges and TVET institutes ran short of teaching staff mostly in the areas of Electronic, Mechanical, and Electrical Technology. The standard of living became better than the past decade. However, the imbalance of basic service, quality of life, manpower demand and supply, natural resource and environment damage and others still remain.

1.2 Perspective of National Policy

The Seventh National Economic and Social Development Plan (1992-1996) has set three main policy objectives, they are:

1. Keep continuing the move towards economic development at appropriate rate and with stability.
2. Develop income distribution more effective to the rural area.
3. Accelerate to develop human resource, quality of life, environmental and natural resource.

According to the opportunity and development capability of the nation, the target plan has been set. They are:

1. Economic Growth

Economic expansion is shown in Table 1.1

2. Income Distribution

2.1 There are six target groups of under the poverty line to develop. They are: agricultural farmers; agricultural labourers; small self-employed and entrepreneur; low income private workers; officials and public staff; and lack of ability group.

2.2 Provide the basic living standard and develop their ability to increase their income.

2.3 Decrease the poverty rate under the poverty line from 23.7 per cent in 1988 which should remain under 20 per cent of total population in 1996.

2.4 Decrease income distribution gap by promoting rural development.

Diagram 1.1

Structure of Educational System 1977

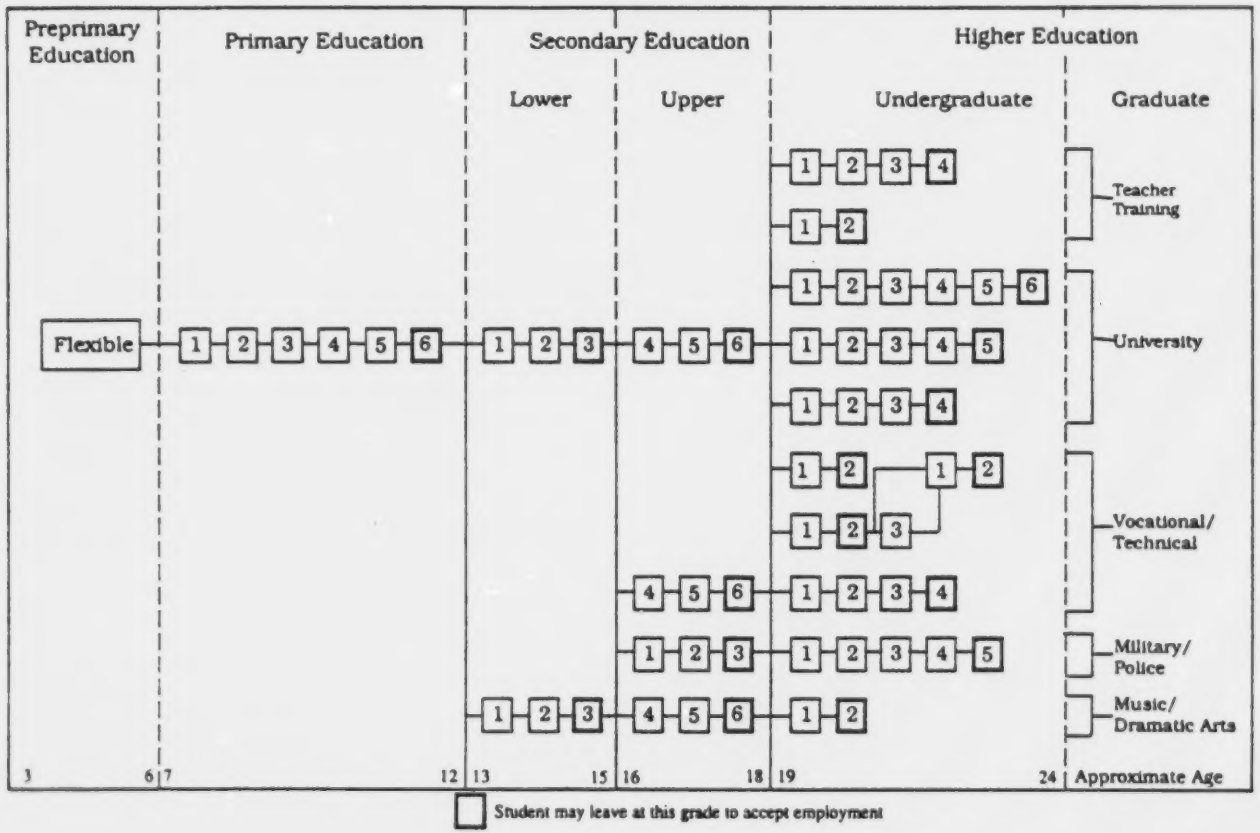

Diagram 1.1. Structure of Educational System 1977

3. a) **Human Resource Development and Quality of Life Promotion**

a.1 Decrease population growth rate to 1.2 per cent in 1996. The total population in 1996 will be 61 million.

a.2 Extension of the basic education from 6 years to 9 years and primary level graduates continuing to secondary education level to the extent of 73 per cent annually.

a.3 Improve provision of life-long education, both formal and non-formal, to upgrade population quality in order to improve the standard of living in the changing society.

a.4 Expand the number of employed persons to 34.85 million in 1996 (In Agriculture sector 20.20 million and in Non-Agriculture sector 14.65 million).

a.5 Infant mortality rate to decrease to an average of 23 per thousand.

Table 1.1 Average Economic Growth 1992 - 1996

	Target Items	Average Percentage
1.1	Overall economic expand rate	8.2
1.2	Per Capita Income increase to 71,000 Baht in 1996 rate	7.0
1.3	Agricultural Sector expansion rate	3.4
1.4	Industrial Sector expansion rate	9.5
1.5	Export value increase rate	14.7
	Quantity productivity for export increase rate	9.0
1.6	Energy productivity for commercial increase rate (crude oil 410,000 barrel per day in 1996)	8.0
1.7	Basic service	
	1.7.1 Electric Power productivity increase (in 1996 total = 14,500 megawatt)	5000 Megawatt
	1.7.2 Telephone number increase to the ratio of number : population in 1996	10:100
1.8	Inflation rate	5.6
1.9	Current account deficit of GDP rate	5.2
1.10	Investment saving gap of GDP rate	23.0
1.11	Import energy control rate in 1996	60.0

Source: NESDB, The Seventh National Economic and Social Development Plan 1992-1996, The Office of the Prime Minister

3. b) **Environmental and National Resources Development**

b.1 Preserve forest green area to an average of 25 per cent of total area in the kingdom.

b.2 Distribute land registration by reforming 30 million rai of land in the period of 7 years and provide land registration issues to the whole kingdom in the period of 20 years.

b.3 Preserve coral line of all National Aquatic Coasts in mostly perfect natural condition.

b.4 Decrease water pollution by maintaining the rate of BOD to less than 4 millilitre per litre.

b.5 Get rid of dangerous chemical refuse to at least 60 per cent of the total rate in 1996.

b.6 Control the level of noise pollution from the original source, let it remain in the level of 80 Decibel.

b.7 Decrease the lead mass from Benzene burning of all transports from the rate of 1030 ton in 1991 to 300 ton in 1996.

b.8 Decrease CO_2 from fuel utility of transport from 950 thousand ton in 1990 to 750 thousand ton in 1996.

b.9 Limit the quantity of SO_2 from fuel utility as follows:

- diesel in transport - 50 units per thousand ton
- coal utility in Industrial Factory - 190 units per thousand ton
- coal utility in Electric units per thousand ton.

1.3 Education Development Plan

According to the National Policy to develop human resource and quality of life, and on the basis of experience of the result of all six plans, it is found that a better educated population will be the key in the nation's effort to tackle challenges of the future. Higher levels of education will lead to greater political awareness, reduced difference in economic opportunities between urban and rural areas and enhanced competitiveness of the Thai economy.

Educational policies as stated in the National Scheme of Education 1977 indicate the Government concerns over education as one of the most important functions of the State to formulate and organize education system.

The state pledges to support vocational education as extensively as possible to extend it to the type of integrated vocational education programme as well as vocational programmes independently established according to special needs with emphasis on training for agricultural and agro-industrial skills.

Vocational education will be introduced even at primary level to instill a love for work as well as to give the necessary skills and knowledge for everyday living. At secondary level, vocational and academic subjects will be integrated in the general educational stream while there can be separate schools or centres emphasizing training of skilled and semi-skilled manpower. The students will have sufficient

training and experience to improve themselves further according to their own aptitudes and interests.

Highly specialized training for specific occupations will be carried out at tertiary level organized in colleges or institutes of technology, or university. Special vocational education and short courses will be encouraged where appropriate.

The private sector will be given opportunities to provide education within the scope limited by the State to utilize its resources, and co-operation between state, local and private institutions will also be promoted to upgrade educational standards.

From the policies and results of last plan of evaluation and researches for future development, the education and training in the seventh plan places high priority on expansion of basic education to ensure preparedness of graduates for increased education, and upgradation of skills for subsequent occupational development, particularly among the underprivileged, who cannot adequately help themselves. The following measure are foreseen:

1. Promote child development from birth to the age of compulsory education.
2. Ensure that the compulsory education covers all of the age group.
3. Speed up development and training of teachers in shortage areas.
4. Encourage public higher education institutes to have greater independence and self-reliance.
5. Promote provision of higher education.
6. Adjust levels of fee per course unit, and tuition fee of public higher education institutions.
7. Encourage higher education institutions to carry out extensive research and development.
8. Encourage and support a greater private sector role in providing education and training services.
9. Improve provision of life-long education for the people in quantitative and qualitative terms.

The office of the National Education Commission has provided the Seventh Education Development Plan (1992-1996) by setting the target of student enrolment and graduates from education systems to the workplace as follows:

1. Formal Education

The enrolment will be increased slightly. Between 1992 and 1996 the increase will be about 11.02 per cent. For the details of each level please see Table 1.2 .

The graduates of all levels will be increased about 18.82 per cent and will enter the workforce with the increasing rate of 13.00 per cent. The graduates from primary education level will continue their study through secondary level to about 73.50 per cent in 1996. The ratio of graduates who enter the

workforce, primary, secondary, higher education will change from 6:2:2 in 1992 to 3:4:3 in 1996. For more details of each education level, please see Table 1.3.

2. Non-Formal Education

The non-formal education will be provided for the one who has less opportunity to study in formal education system. In the Seventh education development plan, the target are expected as shown in Table 1.4.

Table 1.2. Student in Formal System by Level of Education 1992-1996

Unit: thousand

Level of Education	1992	1993	1994	1995	1996	1992/1996 increasing rate
Total	12,39.4 (100)	12,815.0 (100)	13,236.1 (100)	13,605.7 (100)	13,934.5 (100)	11.02
Pre-primary	1,726.7 (13.92)	1,815.5 (14.17)	1,913.4 (14.46)	1,975.2 (14.52)	2,047.1 (14.69)	15.61
Primary	7,049.2 (56.85)	7,101.6 (55.41)	7,140.1 (53.49)	7,159.3 (52.61)	7,151.6 (51.32)	1.43
Secondary	2,584.8 (20.85)	2,799.6 (21.85)	3,033.1 (22.92)	3,277.7 (24.09)	3,510.3 (25.19)	26.37
Lower	1,697.3 (13.69)	1,860.5 (14.52)	2,036.4 (15.39)	2,216.6 (16.29)	2,378.1 (17.07)	28.83
Upper	887.5 (7.16)	939.1 (7.39)	996.7 (7.53)	1,061.1 (7.80)	1,132.2 (8.12)	21.61
General	485.4 (3.92)	513.0 (4.00)	548.2 (4.14)	591.5 (4.35)	641.4 (4.60)	24.33
Vocational	402.1 (3.92)	426.1 (3.33)	448.5 (3.39)	469.6 (3.45)	490.8 (3.52)	18.07
Higher Education	1,038.7 (8.38)	1,098.3 (8.57)	1149.5 (8.68)	1,193.5 (8.77)	1,225.5 (8.80)	15.24
Undergraduate	1,011.2 (8.16)	1067.1 (8.33)	1,116.7 (8.44)	1,159.4 (8.52)	1,188.9 (8.53)	14.95
Post Graduate	27.5 (0.22)	31.2 (0.24)	32.8 (0.24)	34.1 (0.25)	36.6 (0.26)	24.86
Special	1.8 (0.01)	1.8 (0.01)	1.9 (0.01)	1.9 (0.01)	2.0 (0.01)	10.00
Master	23.4 (0.19)	26.7 (0.21)	27.7 (0.21)	28.7 (0.21)	3.05 (0.22)	23.28
Doctorate	2.3 (0.02)	2.7 (0.02)	3.2 (0.02)	3.5 (0.03)	4.1 (0.03)	43.90

Remark: ( ) = percentage
Source: NEC, "The Seventh National Education Development Plan 1992-1996", Office of the Prime Minister.

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1.4 TVET Development Plan

The official goal states that TVET will be provided through programmes related to the market demand and promoted at all education level to provide knowledge and ability to the learner to manage the self-employment.

The strategies of TVET development along with the official goals are as follows:

1. Every organization concerned with TVET will be responsible to prepare a technical manpower and plans its development. Study and review of manpower requirements will be carried out continuously in order to adjust the development plan according to the local and the whole country requirements.
2. Arrange the networking between TVET institutions and private sector to support information matters closely and eventually to update the market change and improve co-operation with TVET.
3. Provide short-courses to upgrade skilled workers and to train pre-employed workers for the firms. Intensive training for advance skills will also be supported and service to private sector provided as requested.
4. Create skill practice activities for administration and management and career aptitude of employers. The training skills should stress on the capability in occupations.
5. Public and private sectors will co-operate to offer the fund for research and development TVET training.
6. Co-ordination between public and private sectors will be promoted to share the resource persons for manpower production.

The strategies for preparing TVET teachers will encourage upgradation of the standard of advance technology knowledge, improvement of TVE curriculum for teacher training, and provision of intensive programme to supply TVET teachers in critical fields. The Skill Development Institutions will be established to provide for TVE staff development for pre-service and in-service training of teachers.

The strategies of TVET curricula will stress revision or reform of the curriculum of all TVET levels to emphasize quality of skill training, working ability in the changing technology of the working life and modern society.

1.5 Dynamics of the Development Process

To develop education in Thailand is a wide concept. It is not stressed to the manufacturing growth or to the ones which are utilized in the productive work in economic sectors. It refers to all competencies which contribute to active role of quality of life in the country. The broader concept is to develop human resources of the workforce in the society which incorporate all learning activities: formal, non-formal, informal, on-the-job training, etc. At present different agencies are involved

in the task of human resource development individually and there are few which are integrated and linked. The illustration is: education is treated as separate from training and very often a substantial proportion of the training activities take place outside the domain of education. Secondly, work and employment are organized almost totally separated from the educational and institutionalized training activities. Finally, educational planning is mostly done at the macro-level and it becomes difficult to establish linkages with employment; work; training programmes; and educational system.

TVET also bases itself on pre-employment education and training in the school system. It has been organized from the start with the aim to educate and train middle level technical manpower for general national development needs and not particularly for industrial development. The problems of manpower quantitative shortage, and qualitative mismatching are becoming more evident. The problems related to TVET limitation in its industrial relevance. The curricula of TVET are broad programmes that cover related technology and other education including social values for general development of human resources, and not just skills for serving any particular industrial development strategies. It intends to develop the foundation of technical capability and common technical manpower pool for general national development needs. In addition, the curricula are regarded as standard curricula and required to be offered at all vocational and technical colleges around the country. It is inflexible to respond to the changing need of industry. The sizeable number of TVET teachers turn to industries which pay two-times higher than TVET institutions. There are increasing number of vacant positions in both public and private TVET institutes, especially in the critical technical fields. Teachers in industrial programme are provided with more teaching load. Therefore, quality of teaching/learning suffers. Most of the part-time and new recruit teachers are the technical and vocational diploma level graduates. The in-service training has been mostly concentrating on rules and regulations. Teaching techniques and other skills training are not organized.

The perception of educational planner is not translated or communicated to the educational functionaries or even trainers and to the employers. The ultimate beneficiary and recipient of these activities namely learners are totally neglected in the process. The perception of the learners regarding what they want is not given due consideration.

The TVET 1992-1996, programme is more flexible in order to meet more effectively the different needs of new industries with new and ever changing technology. The processes are developed to integrate those different activities and perceptions. The co-operation and network among agencies involved in education, training, employment and work are considered. The emphasis is on both formal and informal sector activities; micro-enterprises, employment and work, and on learning for changes in economy and technology.

Table 1.3 Graduates, Continuing Study and Enter Workforce from Education System 1992-1996

Unit: thousand

Level of Education	1992			1993			1994			1995			1996		
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Total	2,024.5 (100)	1,224.9 (60.50)	799.6 (39.50)	2,136.8 (100)	1,318.0 (61.68)	818.8 (38.32)	2,246.6 (100)	1,421.2 (63.26)	825.4 (36.74)	2,367.8 (100)	1,512.0 (63.86)	855.8 (36.14)	2,493.7 (100)	1,591.9 (63.14)	919.1 (36.86)
Primary	1,080.9 (100)	642.1 (59.40)	438.8 (40.6)	1,099.8 (100)	701.7 (63.80)	398.1 (36.2)	1,122.9 (100)	769.2 (68.50)	353.7 (31.50)	1,147.4 (100)	826.1 (72.00)	321.3 (28.00)	1,166.8 (100)	875.6 (73.50)	309.2 (26.5)
Secondary	746.9 (100)	569.2 (76.21)	177.7 (23.79)	819.9 (100)	602.0 (73.43)	217.8 (26.57)	895.5 (100)	637.0 (71.13)	258.5 (28.87)	976.3 (100)	670.4 (68.67)	305.9 (31.33)	1,069.3 (100)	699.6 (65.49)	369.0 (34.51)
Lower Secondary	496.3 (100)	33.14 (66.77)	164.9 (33.23)	551.5 (100)	349.2 (63.32)	202.3 (36.68	607.7 (100)	369.3 (60.77)	238.4 (39.23)	667.3 (100)	392.0 (58.74)	275.3 (41.26)	763.3 (100)	415.6 (56.45)	320.7 (43.55)
Upper Secondary	250.6 (100)	237.8 (94.89)	12.8 (5.11	268.3 (100)	252.8 (94.22)	15.5 (5.78)	287.8 (100)	267.7 (93.02)	20.1 (6.98)	309.0 (100)	278.4 (90.10)	30.6 (9.9)	333.0 (100)	284.0 (85.29)	49.0 (14.71)
Gen	146.2 (100)	145.0 (99.18)	1.2 (0.82)	154.1 (100)	153.6 (99.67)	0.5 (0.33)	164.7 (100)	164.4 (99.82)	0.3 (0.18)	178.2 (100)	169.5 (95.12)	8.7 (4.88)	194.2 (100)	173.6 (89.39)	20.6 (10.61)
Voc	104.4 (100)	92.8 (88.89)	11.6 (11.11)	114.2 (100)	99.2 (86.87)	15.0 (13.13)	123.1 (100)	103.3 (83.92)	19.8 (16.08)	130.8 (100)	108.9 (83.26)	21.9 (16.74)	138.8 (100)	110.4 (79.54)	28.4 (20.46)
Higher Ed	196.7 (100)	13.6 (6.91)	183.1 (93.09)	217.2 (100)	14.3 (6.58)	202.9 (93.42)	228.2 (100)	15.0 (6.57)	213.2 (93.43)	244.1 (100)	15.5 (6.35)	228.6 (93.65)	257.6 (100)	16.7 (6.48)	240.9 (93.52)
Undergrad	186.8 (100)	12.5 (6.69)	174.3 (93.31)	205.9 (100)	13.2 (6.41)	192.7 (93.59)	215.5 (100)	13.7 (6.36)	201.8 (93.64)	230.2 (100)	14.2 (6.17)	216.0 (93.83)	242.8 (100)	15.1 (6.22	227.7 (93.78)
Post grad	9.9 (100)	1.1 (11.11)	8.8 (88.89)	11.3 (100)	1.1 (9.73)	10.2 (90.27)	12.7 (100)	1.3 (10.24)	11.4 (89.76)	13.9 (100)	1.3 (9.35)	12.6 (90.65)	14.8 (100)	1.6 (10.81)	13.2 (89.19)
Spec	1.1 (100)	-	1.1 (100	1.2 (100)	-	1.2 (100)	1.2 (100)	-	1.2 (100)	1.3 (100)	-	1.3 (100)	1.3 (100)	-	1.3 (100)
Master	8.1 (100)	1.1 (13.58)	7.0 (86.42)	9.3 (100)	1.1 (11.83)	8.2 (88.17)	10.6 (100)	1.3 (12.26	9.3 (87.74)	11.4 (100)	1.3 (11.40)	10.1 (88.60)	1.2 (100)	1.6 (13.11)	10.6 (86.89)
Doctorate	0.7 (100)	-	0.7 (100)	0.8 (100)	-	0.8 (100	0.9 (100	-	0.9 (100	1.2 (100)	-	1.2 (100)	1.3 (100)	-	1.3 (100)

Remark: 1 = Graduate; 2 = Continuing study, 3 = Enter the workforce

Source: NEC "The Seventh National Education Development Plan"

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Table 1.4 Students in Non-Formal Education
1992-1996

Unit: thousand

Type/Organization		1992	1993	1994	1995	1996
Basic Education	Total	788.2	975.3	1,309.8	1,783.1	2,268.5
Ministry of Education (MOE)		592.7	764.4	1,082.1	1,536.9	2,001.9
Other Ministries		195.5	210.9	227.7	246.2	266.6
Lower Secondary Ed (Total) (MOE)		342.3	338.7	538.5	691.5	841.0
Upper Secondary Ed (Total) (MOE)		174.8	157.0	233.5	280.8	318.2
TVET Short Course	Total	827.8	895.0	971.4	925.4	948.5
	MOE	827.8	895.0	971.4	925.4	948.5
	Others	227.4	321.2	382.9	410.8	480.2
Non-TVET Short Course	Total	670.0	708.6	770.1	866.3	945.0
	MOE	36.5	37.0	38.0	39.0	40.0
	Others	633.5	671.6	732.1	827.3	905.0

Source: 1. NEC, The Seventh Education Development Plan.
2. MOE, The Seventh Education Development Plan

For formal economic sector, TVET provides informal vocational education system for skilled workers, technicians and professionals. The non-formal TVE provides special skilled workers and semi-skilled workers. TVET courses emphasize practical skills of in-firm training. The students can get acquainted with the world of work and learn about applications of science and technology in the process of production, develop interest and respect for manual work, and inculcate desirable social values and habits. The policy and implementation are promoted by setting joint public and private sector consultative committee on development of occupational education at the national, departmental and institution levels. The committee at the national level sets the policy and at the departmental level develops the curriculum and co-operation. The institution level co-ordinates in-form practical skill or on-the-job training. Dual system for vocational training was developed as a pilot project in 1986 in collaboration with German Government and expanded slowly through the whole kingdom during the seventh plan. In 1992, there were 11 colleges involved in dual vocational education system with 14 fields of study.

For informal sector, TVET provides the short course training programmes, small entrepreneurship development programmes in collaboration with the Carl Duisberg Gesellochaft (CDG) and self-employed development in the rural areas. The training introduces the important elements in a package which includes finance, marketing, management, technology, improvement of attitudes, etc. The policy and implementation of TVET for informal sector are set jointly by public and private sectors in departmental and institutional committee. The identification of training

needs and carrying out of training programmes is not very easy given the structure of this sector.

The curricula of TVET at all levels are revised and reformed to be more flexible to meet changing needs of industrial sector and the advancing modern technology. However, it has to be recognized as well that TVET is still a pre-service education and training system. It is not meant to readily serve the manpower needs of any particular industries. In 1992-1996, TVET curricula still have three standards: they are DOVE curricula, RIT curricula and KMIT curricula. Each organization has developed their curricula separately.

UNDP has assisted the project: the "Strengthening the Staff Development Institute of Technical and Vocational Education" in 1990-1991. The development project for 1992-1996 has been discussed among TVET organizations and other parties concerned. The processes are concerned with three main structure, they are: pre-service development of teachers, in-service training of teachers/instructors; and job entry training. A Skill Development Institute (SDI) will be established. The development targets are: job-entry training of new recruits; practical skill development to consolidate basic skills, specific industrial and technical skills, skill in modern technology; and training for trainers for teaching staff with diploma and teaching staff with technical education degree.

Part II

TRAINING MODES AND SYSTEM

2.1 Organizational Structures

Technical and Vocational Education and Training (TVET) in Thailand is better known by the name of *Vocational Education*. It sets targets and tasks both for the formal and non-formal system. Training courses are conducted by many agencies both in the public and the private sectors. Formal TVE courses are offered mainly by the Department of Vocational Education (DOVE), Rajamangala Institute of Technology (RIT) and the Private Education Commission. These institutions are under the responsibility of the Ministry of Education (MOE). There are some training agencies outside the MOE which conduct TVE courses, such as King Mongkut Institute of Technology (KMIT), the Institute of Agricultural Technology, various public and private universities. They are under the responsibility of the Ministry of University Affairs. The major patterns of provision in the organizational structure of TVET is closer to the *School Model*, which is patterned after that of the United States of America. It provides a wide range of general technical and vocational courses between compulsory and higher education. Learning takes place on a full time basis in vocational/technical/agricultural schools or colleges. It is the programme which combines education and training with work experiences. There is virtually no apprenticeship.

In 1986, the vision of economic growth began and the private sector's demand of qualified skilled workers increased. Hence, the *Dual Model* (Asian Development Bank, 1990) was introduced to the Thai TVET system in co-operation with Germany. A pilot project was implemented in 1986 at KMIT and then another at Southern Institute for Skills Development. In 1988, DOVE also ran a pilot project in one Technical College. The results have been very fruitful. So, from 1992 to 1996 the Thai-German governments agreed to expand the dual system for technical training (DVT) in the whole kingdom, both in formal and non-formal vocational education training. The training is on-the-job. The enterprises play a dominant role in helping develop training content and evaluation.

The formal TVE is provided in two major levels, the secondary level and higher education level

The secondary TVE level provides the programme in two modules - the *School Model* and the *Dual Model*, for training the students to be the skilled workers. It is a three-year curriculum after graduation from the lower secondary level (grade 9). The programme is offered in five main areas, namely: Agriculture, Trade and

Industry, Commerce, Home Economics, and Arts and Crafts. The specific objective of the School Model is to produce the prospective workers for entering into occupations which require a high degree of skill. The graduates receive a certificate in vocational education of their main major fields. They may leave for employment or continue to study in the higher education level. There are 585 institutes which served this programme in 1992. (see Table 2.1) with 436,464 students enrolled (see Table 2-2)

The specific objective of the Dual Model is to supply qualified skilled workers according to the enterprises/firms demand and to provide a chance for a large number of young people to get the required vocational training. The graduates receive certificate in skill specialization in their specific fields. There were 18 DVT programme fields offered in 12 institutes in 1992 with 702 students enrolled. (see Table 2.2)

The higher education level produces the technicians and the highly skilled workers for Labour market. The programmes provided at this level are the Diploma in Vocational Education and the Diploma in Technical Education. These programmes have two-years curriculum after graduation from the upper secondary level (grade 12 or certificate of vocational education). The programmes for TVE teacher-training are Diploma in TVE teachers (1 year programme); Higher Diploma in Technical Education (2 years programmes); and Bachelor Degree in Industrial Education. These are two to two and a half year programmes after graduation from Diploma in Vocational Education. The courses of study still cover five major fields. The graduates receive Diploma/Degree in their major fields. There are 518 institutes offering Diploma in Vocational Education with 136,367 students enrolled, 228 institutes offering Diploma in Technical Education with 26,826 students enrolled and 1 institute offering Higher Diploma in Technical Education and 8 institutes offering Bachelor's Degree with 12,376 students enrolled. (See Table 2.2)

Non-formal vocational courses (TVET) are conducted by many institutes, mainly by the units within the MOE namely: DOVE; the Department of Non-Formal Education (DNFE); and Private Education Commission (OPEC). The units outside MOE include: KMIT North Bangkok (NB), the Office of Accelerated Rural Development, the National Youth Office, the National Security Command, Department of Skill Labour Development, the Department of Community Development, the Department of Public Welfare, the Department of Correction, the Department of Industrial Promotion, the Department of Agricultural Promotion, the Department of Cooperative Promotion, Metro Bangkok Training Centre and various private agencies. There were 1,673 institutes which provided the TVET programmes in 1992 (see Table 2.1) with 764,597 students enrolled (see Table 2.2).

2.2 Role of Pre-Technical and Vocational Education

Pre-technical and vocational education provides in the primary education level simple basic daily life routine courses in subjects of Experience in Life and in Work practice. The curriculum is integrated with simple basic family life; work style in present society; simple basic occupation in trade, agriculture, and commerce; home

economics; and arts and crafts. In Lower Secondary Level the pre-technical and vocational education is provided as a comprehensive study to acquire more skills. Five main vocational fields are set as a basic study in the subject of Work Experience. The students who like to learn more complicated basic skills in each vocational field can select what they need from the elective subjects. Some secondary schools have their own trade and vocational workshops. Schools that do not have their own training workshops send their students for training in Area Vocational Centres (AVCs) under the DOVE. The graduates from this level who enter the workforce can work as semi-skilled workers in the Labour market.

Table 2.1 Distribution of TVE Organization Responsibility, 1992

Organization	No. of Institutes	Formal				Non-Formal	
		Specific field Inst	Technical Inst	Voca-tional Inst	Agri-culture Inst	Poly-technic Inst	Industrial Community Ed Inst/Centre
Total		36	275	285	61	26	1,646
Ministry of University Affairs							
KMIT	3	-	3	-	(1)	-	-
Ministry of Education							
DOVE	215	-	78	40(10	46	26	25
RIT	30	-	11	9(5)	10	-	-
DNFE	71	-	-	-	-	-	71
OPEC	1,828	-	179	124(97)	(4)	-	1,525
Dept. of Fine Arts	11	11	-	-	-	-	-
Ministry of Labour							
Dept. of Skills Development	8	-	-	-	-	-	8
Ministry of Interior							
M.B.K.K.	17	-	-	-	-	-	17
Ministry of Public Health							
Nurse College	23	23	-	-	-	-	-
Ministry of Transport and Comm							
School of Railway	1	1	-	-	-	-	-
School of Postal and Telecom	1	1	-	-	-	-	-
Total	2,208						

Remarks: 1. ( ) offer the course mixed up with Technical
2. Technical and Industry Trade
3. Vocational and Commerce, Home Economics, Arts and Crafts
4. Polytechnic and multiple courses with specific period of short courses training
5. Industrial and Community Ed with flexible period of short courses/interested courses training

Sources: DOVE Statistics 1992
MOE Education Statistic 1992
The Office of Private Education Commission (OPEC) 1992

2.3 Role of School-Based Training

The formal TVET for the School Model offers theory and skilled practice in the colleges or institutes workshop. In the last year of the programme, the students are required to join the public and private sectors to practice their skills and experience the real working life for a period of two to three months. At the certificate level the ratio of theory and skilled practice is 1:2 or 1:3 and at the diploma level, it is 2:2 or 2:3. In the Dual Model, for the first year the student attends classes one or two days a week and has skill practice in a firm three or four days a week. In the second and the third years, the student attends classes one day a week and has skill practice in a firm four days a week. The ratio of theory and skill practice is 20:80. The college's teachers work in partnership with the firm trainers to solve any problems and to follow-up the progress of the trainees.

Table 2.2 Distribution of TVET Students by Level of Education
Academic Year 1992

Organization/Level	Secondary Level		Higher Level			Short Courses				Total
	Cert. Voc	Cert. DVT	Dip Voc	Dip. Tech	Bachelor/ High Dip Tech	One Year	225 hrs	CST	Career Develop-ment	
MOUA										
KMIT NB	820	168	1,310	-	1,281	-	-	-	-	3,579
KMITT	-	-	-	-	52					
KMITL	-	-	-	-	416					
MOE										
DOVE	197,029	539	50,291	11,194	382	1,297	119,494	27,432	72,909	480,028
RIT	20,946	-	33,846	-	10,713	-	-	-	-	65,505
DNFE	-	-	-	-	-	-	-	-	325,570	325,570
OPEC	226,151	-	49,842	15,632	-	-	-	-	313,100	604,725
DFA	2,909	-	1,078	-	-	-	-	-	-	3,987
MOL: DLSD	-	-	-	-	-	5,964	-	-	12,740	18,704
MOT: MBKC	-	-	-	-	-	-	-	-	5,585	5,585
MOPH: Nurses	12,951	-	-	-	-	-	-	-	-	12,951
MOTC: Railway	206	-	-	-	-	-	-	-	-	206
Postals & Tele	154	-	-	-	-	-	-	-	-	154
Total	461,873		163,193		12,844	764,597				

Remarks: CST = Co-operative Study Training
DVT = Dual Vocational Training
DLSD = Department of Labour Skilled Development
DFA = Department of Fine Arts
MBKC = Metro Bangkok Centre
Bachelor/High Dip Tech = Industrial Education

Sources: MOE, Educational Statistics 1992
DOVE, Statistics 1992
KMITNB, Facts and Figures 1993
KMITT Education Information 1992
KMITL Education Statistical Report 1992
OPEC, Statistics 1992
RIT, Statistics 1992

The training evaluation is under the responsibility of individual institutes for the School Model. The students have to pass the examination at the average rate of 1.0 credit point for each subject each year. The graduate has to pass at 2.0 credit point of the total programme years. The Certificate, Diploma and Degree are awarded by the head of organization concerned.

For the Dual Model, after the students have been evaluated when they attended already a three-years programme they are evaluated by the evaluation committee (DVT). The graduates have to pass in both theory and skill practice with at least 40 per cent of the total score. The certificate is given by the evaluation committee as represented by the firm association; and the Director-General of the organization concerned (DOVE, DVT Curricular 1992).

In the non-formal TVET, students are trained only in the college's workshop. Each subject is completed and the student obtains a vocational certificate for the subject concerned.

2.4 Role of Industrial/Enterprise-based Training

The industry/enterprise/firm which accepts to co-operate in the real job experience training of students in the School Model, will assign the student to be trained in appropriated sections. The firm's staff gives the advice, overview and looks after the student during the training period and sends the evaluation report to the college. The representatives of the firm are usually invited to join the curriculum development team, and the advisory committee of the college and the main organizing agency.

The firm involved in the Dual Model is directly responsible in skill training of the trainee. The firm arranges the scope of the training along the occupation work process and integrates it with the curriculum concerned. There is a training contract between the trainee and the firm. The firm provides the trainer. The trainer trains, monitor and reports all steps and the progress of outcomes of the trainee. The firm's trainer and the college teacher closely co-operate with each other to solve problems that may occur during the process of training both at the college and in the firm. The firm's representative also joins the curriculum development committee and the evaluation committee.

Part III

PLANNING AND MANAGEMENT OF TVET

3.1 Planning of TVET

After the cabinet approves the National Education Development Plan, each organization conducting TVET programme sets the five year master plan under the control of each Ministry keeping the official goal of National Education Committee following the Seventh National Economic and Social Development Plan (1992-1996). Each ministry sets strategy, target and task as a sub-official goal which each organization carries out within the operative goals of its master plan. All development projects of the TVET organizations are approved by the ministry. The special project which is not stated in the master plan, has to be approved by the Cabinet. At the college/institute level, an action plan is established following the operative goal of the main organization. The college's action plan are approved by the director-general of the Department or the rector/chancellor of the Institute of Technology/University along the line command of organizational structure (see Diagram 3.1).

In 1992, the TVET development plan of MOE emphasized eight main projects. They are:

1. Establish the college of Industrial and Community Education in Mae Hong Sorn and Mukdaharn Province (DOVE)
2. Short training courses for the people along the boarder: Thai-Myanmar; Thai-Malaysia; Thai-Laos; and Thai-Kampuchea (DOVE)
3. Doi Tung Development in Chiangmai Province (DOVE)
4. Establish the Navamintrachutish Industrial and Community Education College in Bangkok (DOVE)
5. Set up Polytechnic College in Lop Bun Province (DOVE)
6. Reform, improve and develop TVET in Chumporn Province (DOVE)
7. Building, construction and workshop build up (RIT)
8. Klai Kang Won Reform and Development (RIT)

DOVE is the main producer of middle manpower in Thailand. The TVET plan was set in 1992 stressing on 3 main strategies as a sub-operative goal which are related to MOE operational goal in TVET. First, quality TVET programme are developed in terms of management, curriculum, teaching learning process, system planning, project implementation, project monitoring and evaluation, technology transfer, research and development in industry and agriculture to improve TVET

competency as a supply to labour market and improvement of the quality of life and environment in the society. Second, quantitative expansion of TVET to open opportunity to Thai people especially in rural areas to have a chance of fulfilling and upgrading TVET knowledge. Third, support facilities, resources and service be improved to serve quality and quantity strategies to meet the national development goals.

The action plans for implementation in TVET colleges under DOVE are established following the three main strategies. The college action plans emphasize 10 target outcomes, which are: responsible labour requirement; new technology management; self-employment promotion; providing short-courses to the people; curriculum and teaching technology development; TVET circle system of market standard; student quality acceleration; TVET instructor development; public relation coordination; and TVET analysis, research and development.

3.2 Management of TVET

The structure of TVET management is based on the multi-purpose nature of its role to serve the social demands for further study, on training and promoting the qualities of Thai citizens, and supplying vocational manpower to the labour market. The programmes are classified into 4 levels: semi-skilled vocational education; skilled-vocational education; semi-professional education; and TVET teacher education/TVE professional.

The Semi-Skilled Education is provided for the youth who graduated from the primary education level and who are unable to continue their study at lower secondary level, and also for the working youth and adults who need to practice basic skill to improve the job or change the occupation. It is a non-formal programme. The courses are offered at DOVE, DNVE, DPIC, NISD, MBKC.

The Skilled-Vocational Education is provided for the students who graduated from lower secondary level and prefer to study in vocational fields. It is the formal programme of certificate for vocational education (Cert Voc). The course is offered at DOVE, RIT, OPEC, DFA and others (see Table 2.1).

The Semi-Professional Education is provided in three programmes. These are Diploma in vocational education for the graduates of Cert Voc, the courses are offered at DOVE, KMIT. The Diploma in vocational education for the upper secondary (grade 12) graduates, the course is offered at RIT, OPEC. The Diploma in Technical Education for the upper secondary graduates, the course is offered at DOVE, OPEC.

TVET Teacher Education and TVE degree courses are provided for the Diploma graduates, the course are offered at DOVE, RIT, KMIT.

The organization mostly involved in TVET in the Ministry of Education is the Department of Vocational Education (DOVE). Its main function is to produce TVET middle manpower for skilled level and technical level. It also includes TVET short course for semi skilled level. OPEC also manages TVET courses for producing skilled

workers and technician. RIT is responsible for TVET teacher production, the professional TVET technology, and technician manpower. DFA manages TVET only in the field of Arts. DNFE is responsible to manage TVET short courses to serve the community needs in the rural area.

3.3 Organizational Structure

TVET organization structure consists of main central office and TVET institutions. The central office consists of administrative division and service transport division. For TVET organizational structure please see Diagram 3.2 and Institutional organization structure please see Diagram 3.3.

The administration division is responsible for the colleges in general administration and occupational training. The service division is responsible for personnel management, planning, syllabus design, materials and equipment supply, construction design, budgeting and in-service training of teachers. In Diagram 3.2, the administrative divisions are: Technical College Division; Agriculture College Division; Vocational College Division; and Industrial and Community Education College Division. The others are the service and support divisions.

The institutional organization has four main parts. They are: Academic Affairs; TVET Promotion; Planning and Development; and Student Activities Service please see Diagram 3.3.

3.4 Curriculum Structure

Certificate in Vocational Education is divided into 6 semesters (2 semesters a year), summer sessions may be available for each institute if it is appropriate. Class hours require 20 weeks, and 4 weeks for a summer session. First semester ordinarily begins in May or June and ends in October, the second semester covers November to March. Class hours are 5 days or 40 periods a week. The programme is composed of general subjects, related subjects, elective subjects, core-vocational subjects, and vocational main subject. The ratio is about 1:1:0.4:1:6.6. One period is equivalent to 1 credit for theory course and 2 or 3 periods to 1 credit for practice course. The total credits of the whole programme are dependent on the curriculum. The minimum period is 4,800. The evaluation system is 1.0 point average pass for each subject. The accumulative point average for total programme is 2.0. For the courses offering see Table 6.7.

Diploma programme is divided into 4 semesters, 18 weeks for a semester. Credit total range from 80-96 credits depending on curriculum requirements. The programme is composed of general and related subjects, vocational subjects, core subjects, elective subjects. The ratio is 2:4:4:2. The evaluation system is that the graduates have to pass a cumulative point average for the total programme of 2.0. There is no re-examination for the un-passed subjects. The retirement is made in the case of point average if less than 1.75 for 2 semesters, or 1.95 for 3 semesters, or above for the whole semester without any notification. The exclusion can be made in

the case of the learners who are unable to complete the programme within 2 years, two more semesters are maximum permissible. For the course offerings see Table 6.8.

Bachelor's Degree programmes vary in each Institute of Technology or University. The programme is of 2 years duration to produce TVET teacher. For the course offerings see Table 6.9.

The short courses are a group of independent subjects. The credit hours vary according to the content of each subject. Each subject is completed in itself; after the completion of one subject, learner will obtain a vocational certificate of that subject. The sample of short course offerings is in Table 6.10

Table 3.1 Students by Field of Study and Level of TVE (Cert. & Dip.), 1992-1996

Unit: thousand

Field/Level		1992	1993	1994	1995	1996	Average Increased rate %
Industry	Cert DVT	0.6	0.7	0.7	0.8	1.0	10.00
	Voc Cert	216.0	231.5	245.3	256.1	268.1	4.85
	Voc Dip	68.4	78.2	83.4	88.6	93.0	6.61
	Tech Dip	6.6	8.1	8.1	9.0	9.1	6.87
Commerce	Cert DVT	0.02	0.04	0.1	0.1	0.1	20.00
	Voc Cert	168.3	177.4	183.4	189.3	196.4	3.58
	Voc Dip	53.8	57.2	59.3	61.9	66.3	4.71
	Tech Dip	20.1	21.4	21.6	21.8	21.8	2.0
Home Economics	Voc Cert	16.0	19.0	20.7	20.9	21.0	6.00
	Voc Dip	8.7	12.8	13.1	13.2	13.3	8.65
	Tech Dip	1.4	2.8	2.9	3.0	3.0	13.33
Arts and Crafts	Voc Cert	14.1	15.8	16.9	17.8	18.6	6.05
	Voc Dip	4.2	5.1	5.5	5.6	5.6	6.25
	Tech Dip	0.8	1.4	1.4	1.4	1.4	10.71
Agriculture	Cert DVT	0.1	0.1	0.1	0.1	0.1	-
	Voc Cert	9.2	9.6	9.9	10.0	10.2	2.45
	Voc Dip	9.0	9.8	10.1	10.1	10.3	3.16
	Tech Dip	2.2	2.4	2.5	2.5	2.5	3.00
Total	Voc DVT	0.7	0.8	0.9	1.0	1.2	10.42
	Voc Cert	423.6	453.3	476.2	494.1	514.3	4.41
	Voc Dip	144.1	163.1	171.4	179.4	188.5	5.89
	Tech Dip	31.1	36.1	36.5	37.7	37.8	4.43

Source: NEC 1992, The Seventh National Education Development Plan

Table 3.2 Number of Student by Field of Study (Degree Level for TVE Teacher Training)

Field of Study	1992			1993			1994			1995			1996			Total		
	B	M	D	B	M	D	B	M	D	B	M	D	B	M	D	B	M	D
High Technology	589	-	-	832	-	-	1,039	-	-	1,288	-	-	1,326	-	-	5,074	-	-
Industrial Education	1,085	538	10	1,240	584	20	1,295	584	20	1,335	584	20	1,335	584	20	6,290	2,874	90
Business Administration	245	-	-	230	-	-	275	-	-	300	-	-	150	-	-	1,200	-	-
Home Economics	240	-	-	230	-	-	210	-	-	200	-	-	190	-	-	1,070	-	-
Arts and Crafts	385	-	-	320	-	-	260	-	-	220	-	-	190	-	-	1,375	-	-
Agriculture	515	-	-	610	-	-	605	-	-	660	-	-	725	-	-	3,115	-	-
Total	3,059	538	10	3,462	584	20	3,684	584	20	4,003	584	20	3,916	584	20	18,124	2,874	90

Source: 1. MOE, Seventh Educational Plan 1992-1996
2. KMIT, Educational Statistic 1992-1996
3. Somchob Chayavej "Technical Education and Vocational Staff Development"

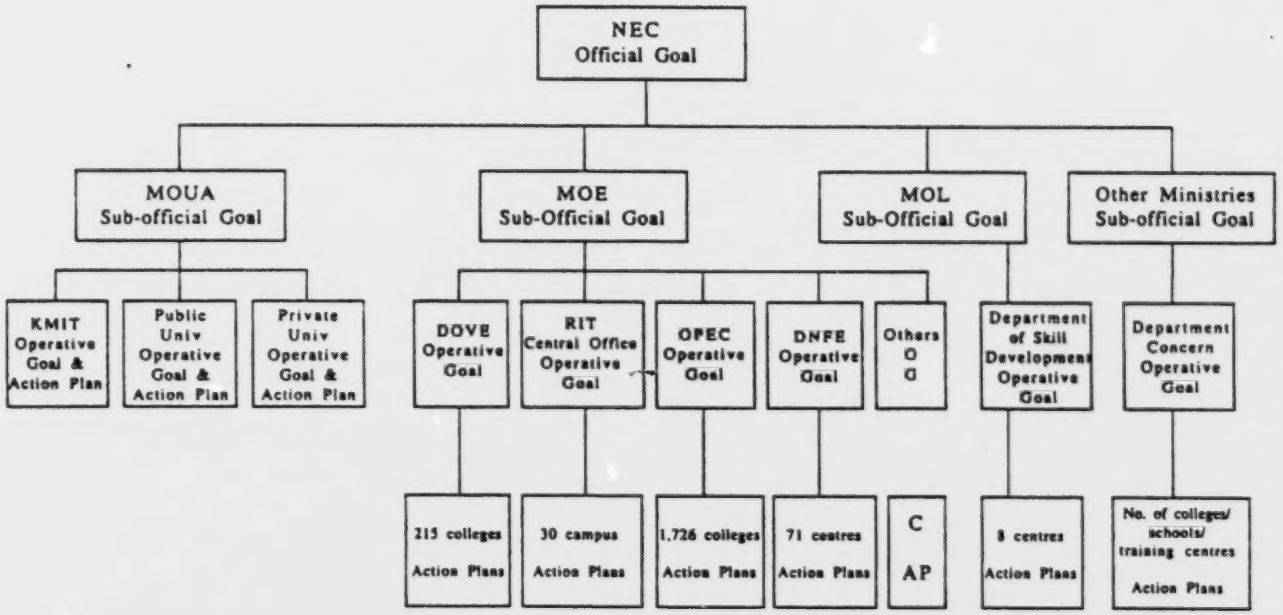

Diagram 3.1
Organizational Structure

Diagram 3.2

ORGANIZATION STRUCTURE OF THE DEPARTMENT OF VOCATIONAL EDUCATION

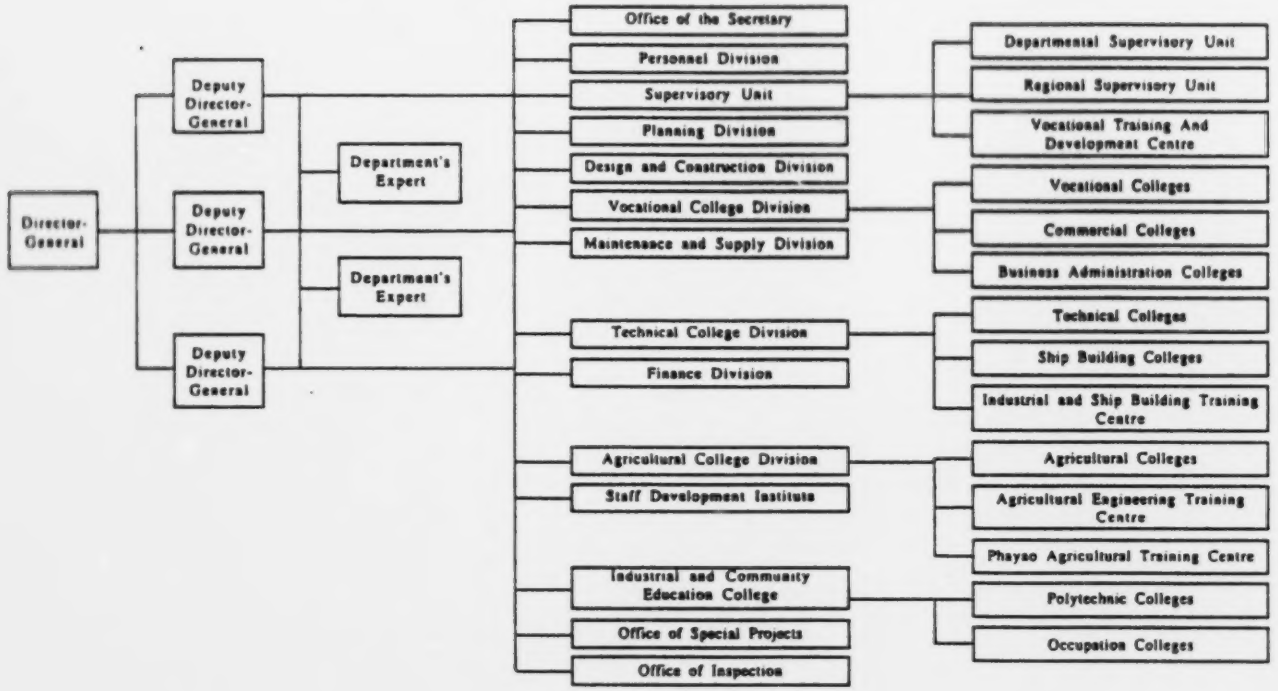

Diagram 3.2 Organizational Structure of the Department of Vocational Education

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Diagram 3.3

INSTITUTE/COLLEGE ORGANIZATION STRUCTURE UNDER DOVE

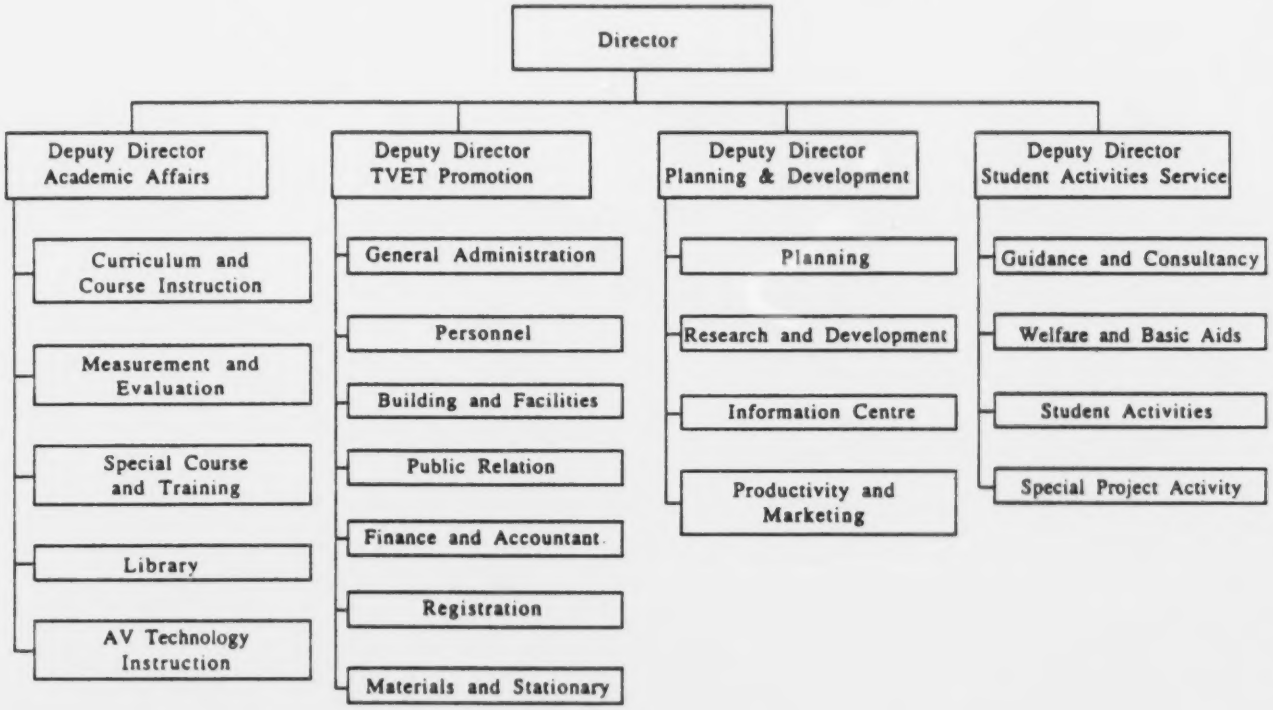

Diagram 3.3 Institute/College Organization Structure Under DOVE

Part IV

FINANCE FOR TVET

Education is a long term investment that pays tangible and intangible dividends in the development of individual, society, and the nation. The financial commitment of the Government on the development of TVET has increased tremendously in the last two decades up to 7.0 per cent of total education budget in the Fifth Plan (1982-1986) (National Education Commission), and 6.3 per cent for the Sixth Plan (1987-1991). The allocation of government funds for TVET fluctuated from plan to plan and still the allocation is found to be not sufficient. The increase of budget allocation to TVET under the Ministry of Education from the Second to the Sixth Plan are shown in Table 4.1.

Table 4.1 Government Budget for TVET (1967-1991)

Unit: million Baht

Type	Second Plan 1967-1971	Third Plan 1972-1976	Fourth Plan 1977-1981	Fifth Plan 1982-1986	Sixth Plan 1987-1991
Educational Budget	19,913	41,588	99,709	236,861	268,453
Vocational Education Budget	1,730	2,262	6,229	14,142	16,881
Percentage	8.68	5.44	6.32	7.0	6.29

Source: 1. Office of NEC
2. The Ministry of Education
3. Bureau of Budget

4.1 Government Expenditure Distribution

The educational budget in the fiscal year 1992 was 85,473.4 million Baht, 3.1 per cent of GDP., 18.6 per cent of National Budget[2]. The educational budget expenditures for the elementary education level was 49.29 per cent; secondary education level 27.40 per cent; higher education level 17.35 per cent; other education 5.93 per cent as shown in Table 4.2

The budget of the Ministry of Education in FY 1992 was about 69,738.28 million Baht, 80.75 per cent of National Budget, 15.15 per cent of National Budget and 2.54 per cent of GDP.

The budget for TVET under MOE in FY 1992 indicated that the budget expenditure in four main organization was about 13.37 per cent of MOE Budget, 10.91 per cent of Educational Budget, 2.03 per cent of National Budget, and 0.34 per cent of GDP. (See Table 4.3)

Table 4.2 Educational Budget Expenditure by Level of Education (FY 1992)

Unit: Million Baht

Level of Education	Amount	Percentage
Pre-Elementary and Elementary	42,126.5	49.29
Secondary	23,420.6	27.40
Higher Education	14,854.3	17.38
Non-level Education	2,048.5	2.40
Other Education	2,242.4	2.62
Services supporting Education	781.1	0.91
Total	85,473.4	100.00

Sources: Bureau of Budget

In the public TVET institutions, more than 80 per cent of expenditures come from the government. Other sources of financing are tuition fees and private donations. A student pays the tuition fee of 800 - 2,600 Baht a year in public colleges and 7,000 - 9,000 Baht a year in private colleges. Unit cost for materials per student are about 1,000 Baht for certificate level and 2,000 Baht for Diploma level. The DOVE (1992) found that the proportion of government budget and tuition fee on unit cost per student was approximately 84.44 per cent and 15.50 per cent, respectively, for all institutions. (See Table 4.4)

Table 4.3 TVET Budget (FY 1992)

Unit: Million Baht

Organization	TVET Budget	MOE Budget in %	Educational Budget in %	National Budget in %	GDP in %
DOVE	4,585.7	6.58	5.37	0.99	0.17
RIT	1,501.8	2.15	1.76	0.33	0.06
DNFE	1,389.4	1.99	1.63	0.30	0.05
OPEC	1,847.3	2.65	2.16	0.40	0.07
Total	9,324.2	13.37	10.91	2.03	0.34

Note: National Budget = 460,400 Million Baht
1992 GDP = 2,756,877 Million Baht

Source: Bureau of the Budget 1992.

Table 4.4 Recurrent Costs per Student in 1992

Unit: Baht

Type of Institution	Total Cost	Government Budget	Tuition Fee
Agricultural College	42,403	40,603	1,800
Technical College	15,861	14,261	1,600
Vocational College	10,496	8,926	1,570
Polytechnic Colleges (225 credit hours)	3,746	3,521	225
1 Year Course	3,821	3,521	300

Source: Department of Vocational Education (DOVE)

For expenditures for educational process, a major portion of government budget and tuition fees were spent as could be visualized in Table 4.5.

Table 4.5 Recurrent Expenditures of 1992 Distribution by Government Budget and Tuition Fee (DOVE)

Unit: Percentage

Categories of Expenditures	Government Budget	Tuition Fee
Salaries	34.17	-
Permanent Wages	4.89	-
Temporary Wages	0.08	17.59
Remuneration	8.93	13.78
General Expenses	2.02	-
Supplies and Materials	12.36	31.86
Public utilities	2.18	1.23
Equipment	17.61	16.68
Properties and Construction	16.17	16.57
Subsidies	1.06	0.30
Others	0.53	1.99
Total	100	100

Source: Department of Vocational Education "Statistic 1992".

4.2 Role of International Aids Agencies in Financing and Developing TVET

Technical co-operation has been in the form of training seminars, evaluation, research, miscellaneous equipment, and experts.

Types of co-operation are: experts, fellowships, equipment, volunteers, grant and other. Agriculture remained the sector receiving the highest amount of technical cooperation about 24.7 during the Sixth Plan. The percentage of technical co-operation to education declined from 21.8 per cent to 10.10 per cent. (See Table 4.6)

Table 4.6 Distribution of Technical Co-operation during the Fifth and Sixth Plan Period

Unit: Percentage

Sector	Fifth Plan	Sixth Plan				
		1987	1988	1989	1990	1991
Agriculture	29.5	36.7	36.6	26.8	11.1	12.2
Industry	4.3	4.7	3.6	1.8	7.3	3.0
Energy	2.6	1.9	2.2	1.7	2.2	2.1
Science and Technology	1.9	4.7	10.7	15.4	0.3	0.2
Communication	1.3	7.0	1.9	1.4	2.1	3.6
Health	12.5	5.3	4.6	2.4	1.8	2.1
Education	21.8	8.4	9.8	10.7	8.1	13.4
Social and Community Development	11.0	20.3	22.6	21.4	20.1	11.6
Administration	12.2	15.1	7.6	13.3	29.2	29.5
Services	0.1	0.3	0.1	0.1	0.1	0.1
Environment	0.4	0.6	0.3	5.1	2.4	2.2
Others	2.4	0.0	0.0	0.0	0.0	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: DTEC, "The Seventh National Economic and Social Development Plan (1992-1996)

For TVET development, there is technical assistance for human resource development and social development. In the period of 1992-1996 the total value of co-operation was 55.42 million, 87.6 per cent of which was for human resource development at the Technical School and College level, (see Table 4.7). This is considered to be an effective means to solve Thailand's manpower shortage problem.

4.3 Private Financing and Provision

Private agencies ordinarily share TVET co-operation in terms of scholarship grants for poor and intelligent students; donate the equipment for TVET training; provide financial assistance through capital fund by using the benefit of the fund to

develop and properly implement upon the decision of the head of each TVET organization; grant for TVET Institution Association; donate as a part of TVET human resource and social development programmes. The provision is open to private institutions who are willing to extend their assistance. However, the government announces yearly the items which are tax exempted, such as equipment donated. The TVET development projects usually request for financial grants and donations e.g. environment development seminar for TVET teachers, administrator's meeting, TVET exhibition for public consumption, skill competition promotion for TVET students, research and development, etc.

Table 4.7 Technical Assistance in (US$) to Thailand for Vocational School and College by Source of Donor (1992-1996)

Unit: Thousand

Source	Technical Assistance US $
USAID	520.2
FRA	144.5
IDRC	152.0
SWE	235.5
UK	737.3
CRS	4.9
JPN	3,384.1
AUS	475,981.5
CAN	3,789.9
DEN	769.7
Total	485,719.6

Source: DTEC, The Seven Plan 1992-1996

Part V

CO-OPERATION BETWEEN PUBLIC AND PRIVATE SECTOR

In establishing co-operation between the government and the private sector for economic development in Thailand, many ideas had been continuously generated since 1960's. Employers were asked to participate in the curriculum design, react to generate more job opportunity in factories, banks, and companies. Sometimes they were also consulted on trends of labour market demands. In addition, it was required of vocational/technical students to have one semester of field practice on technical training. Vocational/Technical education institutes also extended some assistance to private enterprises in terms of conducting in-service training programmes for employees, inviting their participation in seminars/workshops and training programmes with government institutions. However, co-operation between public and private sectors still occurred not quite systematically and tended to base on self-benefit.

5.1 National Co-operation

In 1982, the problem of unemployment in Thailand had became serious. To develop economy of the country, the co-operation between government and private sector was then set up officially in a more systematic way. In 1983, the government formed a joint committee to strengthen co-operation between government and private sectors for vocational/technical development. This committee consisted of 26 members selected from both government and private firms with the following responsibilities:

1. To analyze problems and obstacles of vocational/technical education in relation to the unemployment of the graduates and to find solutions to such problems.
2. To formulate policies, plan the implementation and co-ordinate plans and projects among executing government institutions and between public and private sectors.
3. To encourage private sector to take more active part in providing vocational education.
4. To set up minimum standards and testing strategies for professional technicians or skilled labour.
5. To monitor assigned responsibilities of implementing agencies concerned.

In 1985-1988, several activities had completely been undertaken by this committee. The main outcomes are:

1. The cabinet allowed government enterprises in their foreign assisted projects to employ graduates in vocational/technical education who successfully passed the qualifying tests required by these enterprises at the rate of 5% in 1987, and an increase of 10% from 1988 onwards.
2. The cabinet also accepted, in principle, to permit vocational/technical institutions to engage in commercial business in the marketing of farm or industrial products so that advantages could benefit the students on occupational efficiency and financial adequacy to maintain educational standards as well as become a source of educational financing.
3. Apprenticeship regulations were drafted for private sector to provide training for students, employed individuals or working adults to gain additional knowledge and skills in consistency with the changing socio-economic environment.
4. The government allowed tax exemption on students insurance fees for the private sector that admit students on apprenticeship programme to enhance quality improvement and upgrade occupational standard for the students.
5. Office of National Economic and Social Development Board accepted the Committee's recommendations to be included in the National Development Plan for support and encouragement for public and private sectors in the field of metallurgy, chemical industry, rubber industry, medical industry, food industry and mineral industry, and
6. Actions had been taken to formulate minimum standard for vocational/technical education curriculum, apprenticeship training and teaching-learning processes. Structure framework for government and private co-operations on vocational/technical education development, and advantages for private sector making active contributions to vocational/technical and occupational training had been identified and drafted for further actions.

In 1989, the committee had been revised and approved by the cabinet. The new committee consisted of 22 public and private members. The Prime Minister remained the chairman and the Director-General of DOVE acted as the secretariat of the committee. This committee continued its task in setting the rules and regulations. The Act for Vocational and Occupational Training was drafted and processed. The Act for Technician Occupation Promotion has also been drafted and processed. This committee has been co-operating with Germany regarding Technical Co-operation concerning the project of Thai German Dual Vocational Training during the period of 1991-1995 to introduce in the countryside the dual system of vocational training and expanding it both regionally and in various trades/industries.

In 1991/1992, the composition of this public and private co-operation committee was once more revised to consist of 19 members to "Public and Private Co-ordination for Middle Manpower Development Committee" (PPDC). The Permanent Secretary of MOE is the Committee Secretary. The PPDC Secretarial Office is shown in Diagram 5.1. This committee is concerned with the following responsibilities:

1. To plan the manpower supply in both formal and non-formal systems relative to the market demand.
2. To create the co-operation among middle manpower supply institutions and the private sector/council/federal centre of industry, agriculture, commerce, and service for TVET training skills.
3. To create co-ordination between vocational institutions and private companies in terms of training skills for the trainees.
4. To co-operate and extend the organizational opportunity for Dual Vocational Training (DVT) system in the whole kingdom.
5. To introduce an effective model to smoothly co-operate and weave quality in manpower supply.
6. To consider the quality trend to develop DVT system relative to technology changing in both economic and social aspects.
7. To circulate the result of PPDC outcome to all public and private sectors concerned with TVET

In 1991-1992, there were three sub-committees

1. Drafting National Vocational Education Act.
2. Drafting Role and Regulation for Seattle Private Skill-Training Centre in TVET Institutes.
3. DVT and Development System, rules and regulation.

For DVT development system, there is a National Dual Vocational Training Office (NDVT). (See Diagram 5.2). The NDVT sub-committee is responsible to:

1. Draft policy for DVT development system to the government.
2. Set up DVT master plan for the whole kingdom.
3. Create model/pattern of DVT system management suitable to Thailand.
4. Set up the standard, rules and regulations of DVT management system.
5. Promote the curriculum development and co-ordination between public and private sector for implementation.
6. Submit the progress report to PPDC.

The National DVT office :

1. Processes and submits the policy for organizing dual vocational training system to the government.
2. Co-operates with the government.
3. Develops curricula related to the market demand.
4. Carries out research studies on the requirements of market demand, finds out the possibility to extend the DVT organization, surveys the readiness of the co-operation between education institution and private firm to carry out the DVT system, the full supply of DVT, the requirement of system, the model of system training and any effect in vocational and training system.
5. Co-operates with public and private sectors to extend the DVT management.
6. Submits and approves the draft act, rules and regulation or any factors relative to DVT to the government.
7. Manages and services the information system of DVT and updates it to be modernized.
8. Processes the yearly report to PPDC and the special report in case of urgency.
9. Co-ordinates the operation at sectors: at department level and operation level which may affect organization and management to DVT system.

5.2 Departmental Co-operation

The co-operation at this level ordinarily emphasizes the development of operation. The Public and Private Advisory Committee is set in each department. The committee usually advises and recommends operational management and development in terms of curriculum development, occupational requirements in the labour market, the agreement for upgrading TVE teachers and private personnel, intensive training for private employees, the co-ordination of TVET staff, on the job training, sharing facilities, and exchanging staff.

5.3 Institutional Co-operation

The co-operation at this level is stressed on the implementation in each local area. The TVE college/institution usually set up the College/Institution advisory committee. The member from the private sector is the representative of local private firm in each province. The co-operation is a direct contract in each province. It is also a direct contract on full co-operation on: practical skills for TVET students for regular formal programme and on the job training for DVT programme. The contract is made between college/institution and the private firm. The partial co-operation usually concerns with the co-operation in terms of: conducting in-service training programme for employees; inviting to participate in workshops and training

programmes; intensive training for pre-employed workers; and the promotion of TVET students activities/institutions.

5.4 Industry Education Co-operation

The industry education co-operation between public and private sectors concerns mainly with curriculum development, students skill practical training, teachers and administrators training, dual vocational (on the job) training, and intensive training for employees. Seminars/workshops concern: industry education directions for the future; introduction of new technology both in hardware and software in public and private institutions and development and improvement of manufacturing management. Public and private sectors closely co-operate in sharing personnel, facilities, attitudes, and industry behavior in education.

5.5 Grants-in-Aid and Technical Co-operation

In-country grants-in-aids and technical co-operation are involved in education, training and research and development. The technical co-operation and aids are granted by private sector or individuals in terms of student scholarships, teaching staff and administrator training fund, tool and equipment support and fund for research development. In terms of technical co-operation, specialists and experts are involved in the local organization of seminars, conferences, academic discussion, and other TVET activities.

International grants-in-aids and technical co-operation are of two types. They are bilateral/technical co-operation project and the institutional linkages. The co-operation involves the partnership and provision of experts/consultants. The co-operation can take the form of Government to Government, or International agencies to Department/Institution, private firms overseas to individual teaching staff; International Association to In-Country Association, etc.

5.6 Thai International Co-operation

Thai International Co-operation was first introduced in 1954 when Thailand joined the Colombo Plan. Its responsibility in the early years was to organize education and training programmes in Thailand for recipients of international organizations and fellowships for participants from developing countries. In 1963, Thailand began to offer full scholarships to developing countries as part of its role within the Colombo Plan. Today, Thai International Co-operation efforts extend to more than 40 countries around the world.

The co-operation can be classified into three types.

1. *Thai International Co-operation Programme* (TICP). This programme is fully supported by the Thai Government. Most of the funds are designated for training or study tours involving more than 40 countries. Very little funds are allotted for items as experts and equipment. In 1991 the budget for TICP was about 20.8 million Baht.

2. *Third Country Training Programme* (TCTP). Under this programme training or study tours are organized in Thailand for those participants from other countries who receive funding from international organizations or donor countries. The Thai Government, through DTEC takes care of the co-ordination and programme arrangements and absorbs the administration costs.
3. *Technical Co-operation Among Developing Countries* (TCDC). It is an exchange programme among developing countries. During the sixth plan, most of the activities involved fellowships for exchange training or study tours. The Thai Government absorbs all costs while the participants are in Thailand.

The total budget of the three programmes was 12.7 million Baht in 1987, rising to 24.5 million Baht in 1991. Basically, the programmes have provided training and study tours in a wide range of fields. The TICP contained two major components: the individual requests and training programmes granted to Bangladesh, China, Fiji, Gambia, Guinea, Kenya, Malaysia, Myanmar, Laos and Vietnam. The fellowship granted during 1987-1991 was 537 representing a value of more than 5.2 million Baht (see Table 5.1). The Group Training Programme awarded fellowships about 260 participants to attend various training courses in Thailand. This support was valued at more than 56.3 million baht and benefited more than 40 countries. The training course involved different fields such as agriculture, technical, and vocational, public health, economic development, social development, etc. Individual and Group Training together was valued at 20.8 million in 1991.

Table 5.1 Value and Number of Fellowship (1987-1991)

Unit: Million Baht

Programme	1987		1988		1989		1990		1990	
	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.
Individual	0.2	17	0.5	102	1.6	85	2.9	154	[20.8]	179
Group Training	11.4	247	14.8	271	13.8	241	16.3	278		223
Third Country	-	498	-	499	0.1	574	0.2	644	0.5	578

Source: DTEC 1992

In the Third Country Training Programme (TCTP) or study tour on behalf of other countries, participants receive financial support from donor countries or international organization such as WHO, UNESCO, UNDP, ILO, UNFPA, ESCAP, and USAID. Participants come from both developed and developing countries, such as Canada, Japan, Republic of Korea, Iraq, Iran, Pakistan, China, Sri Lanka, Somalia. A total of 2,988 persons attended these programmes during 1987-1991.

TCTP provided a wide range of courses in Agriculture, Industry, Development, Planning, Public Health, etc.

The TCDC offers fellowships and exchanges of experts with many countries, especially China. The fellowship provided by Thai government is shown in Table 5.2 and the related co-operation offered to Thailand is shown in Table 5.3.

Table 5.2 Technical Co-operation from Thailand

Unit: No. of Fellowhip

Country	1987	1988	1989	1990	1991
China	51	48	79	158	178
Others	n.a.	n.a.	38	47	99

Note: Others included 22 countries in Asia, Africa, Eastern Europe and South America.
Source: DTEC 1992

Table 5.3 Technical Co-operation to Thailand

Unit: No. of Fellowhip

Country	1987	1988	1989	1990	1991
Korea	14	25	22	14	13
China	101	130	120	179	179
Malaysia	27	28	32	10	13
Singapore	21	55	12	10	10
India	19	15	12	11	11
Indonesia	-	7	34	26	22
Others	10	16	13	5	7

Note: Others included Turkey, Myanmar, Pakistan, Vietnam and Egypt
Source: DTEC 1992

In the Seventh Plan 1991-1996, Thai International Co-operation emphasizes on neighboring countries which can benefit most from Thailand as development experience.

Target groups are divided in four groups:

Group 1	Consists of Laos, Myanmar, Kampuchea, Vietnam	
Group 2	Consists of 52 countries South Asia	Sri Lanka, Pakistan, Maldives, Bangladesh, Nepal, Bhutan.
	Pacific	Fiji, Solomon Islands, Western Samoa, Papua New Guinea, Vanuatu.

	Africa	Kenya, Ivory Coast, Senegal, Nigeria, Egypt, Morocco, Zimbabwe, Swaziland, Namibia, Mogambigue, Gambia, Mali, Niger, Sudam, Somalia, Guinea, Liberia, Mauritius, Sierra Leone, Tanzania, Burkina, Faso.
	Asia	Korea, China, India.
	Middle East	Iran, Saudi-Arabia, United Arab Emirates Oman, Qatar, Bahrain, Jordan, Kuwait.
	Eastern Europe	Georgia, Poland, Czech and Slovak, Hungary.
	South America	Argentina, Brazil, Chili, Uruguay, Mexico.
Group 3	The Philippines, Indonesia, Malaysia, Singapore, Brunei	
Group 4	Other countries not grouped elsewhere *Form of Co-operation* 1. Agriculture and Forestry	Highland Agriculture, Agro-Forestry, Multiple Cropping, Food Technology, Bio-technology, Land Policy and Planning.
	2. Fishery	Fish Handling and Processing, Ireland Aqua culture.
	3. Industry	Automobile, textile, Agro-Industry.
	4. Human Resource Development	Higher Education, Vocational Education, Educational Planning, Population Education, Nutrition, Nursing, Medicine, Primary Health Care.
	5. Science and Technology	Energy, Biology, Chemistry, Ecology, Neutron, Activation, Neurobiology, Pathobiology.
	6. Communication and Transportation	Telecommunication Technology, Digital Communication System, Transportation Engineering, Mass Communication, Metrology.
	7. Management	Monitoring and Evaluation System for Development Projects, Project Analysis and Management, Development Planning.

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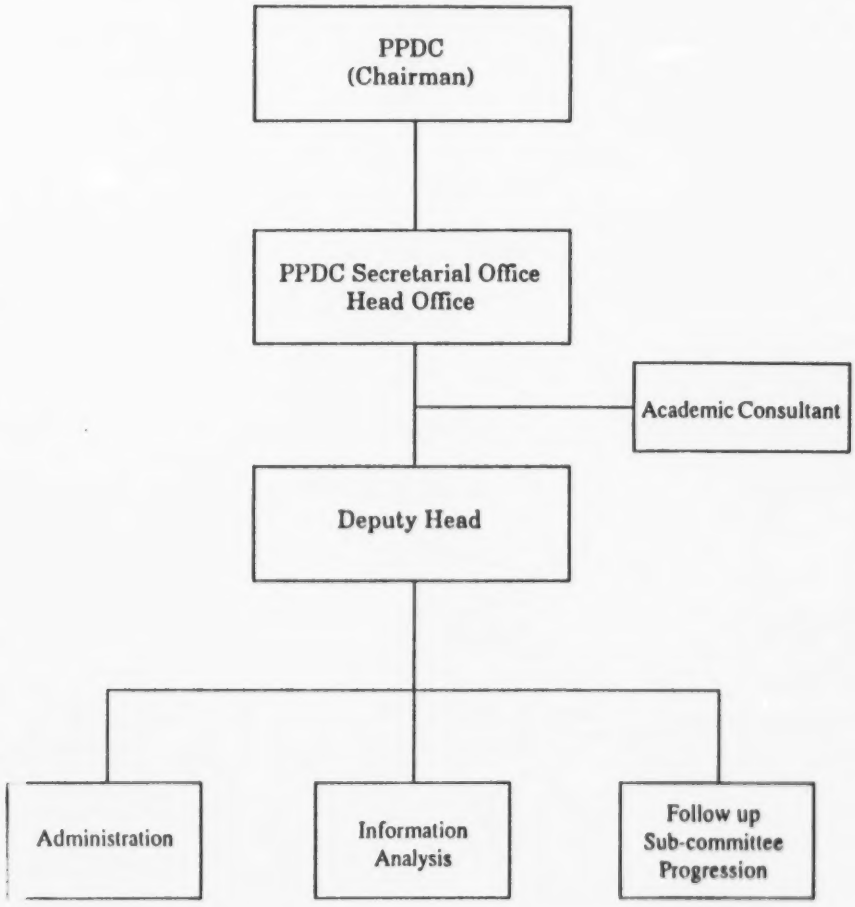
Diagram 5.1

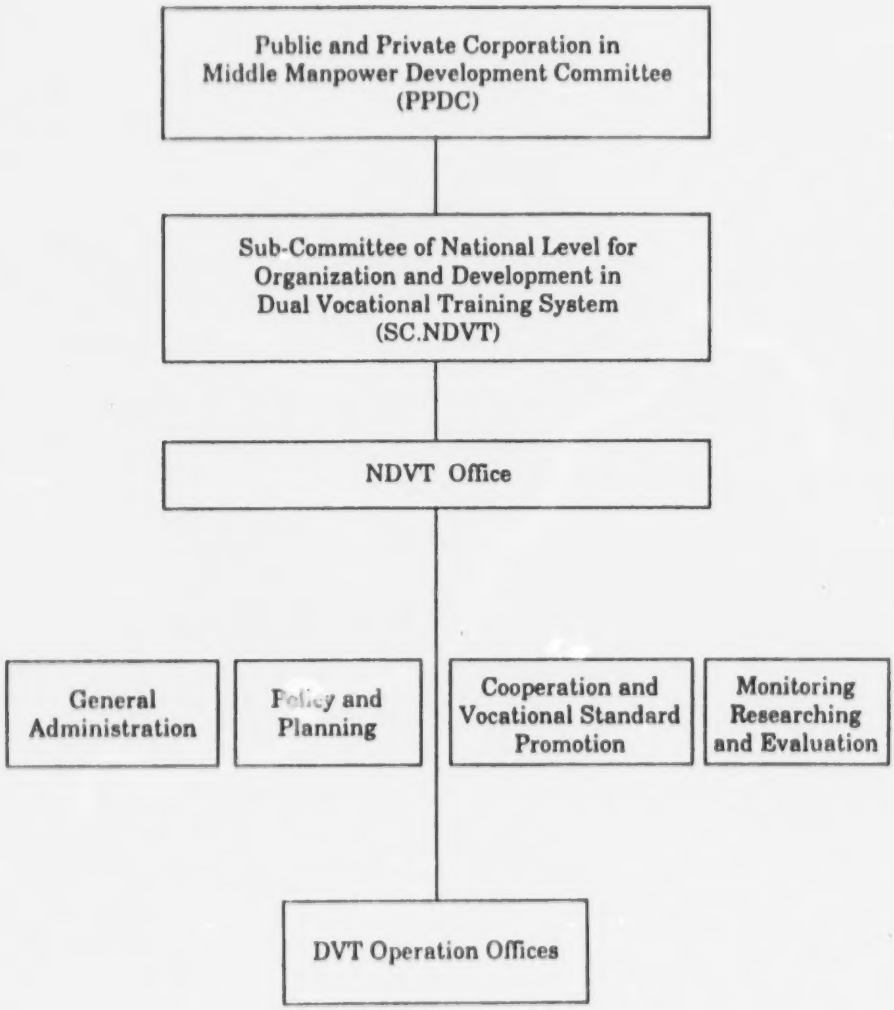
PPDC Secretarial Office



Source: PPDC Secretariat Office 1992

Diagram 5.2

NDVT Organization Chart


Public and Private Corporation in Middle Manpower Development Committee (PPDC)
Sub-Committee of National Level for Organization and Development in Dual Vocational Training System (SC.NDVT)
NDVT Office
General Administration
Policy and Planning
Cooperation and Vocational Standard Promotion
Monitoring Researching and Evaluation
DVT Operation Offices

Source: NDVT Office 1992

Part VI

STATISTICS

The statistics in this part is concerned with the social and economic aspect, manpower in the workforce, manpower requirement, TVET programs and Thai TVET staff upgrading by CPSC.

Table 6.1 Income Distribution

Unit: Percentage of total income

Population Group (Quintile)	Income		
	1975/76	1980/81	1985/86
(1) First richest by 20%	49.3	51.5	55.6
First richest by 10%	33.4	35.4	39.2
Second richest by 10%	15.9	35.4	39.2
(2) Second richest by 20%	21.0	20.6	19.9
(3) Third richest by 20%	14.0	13.4	12.1
(4) Fourth richest by 20%	9.7	9.1	7.9
(5) First poorest by 20%	6.1	5.4	4.6
Second poorest by 10%	3.6	3.3	2.8
First poorest by 10%	2.4	2.1	1.8
TOTAL	100.0	100.0	100.0
Income Group (1) compared to Group (5)	8.1	9.5	12.1
GINI Coefficient	0.426	0.430	0.500

Source: National Statistics Office, 1988

Table 6.2 Gross National Product and National Income at Current Market Price, 1988 by Industrial Origin

Unit: Million Baht

Industrial Origin	1987	1988	1989	1990	1991
Agriculture	204,521	252,346	279,690	279,081	321,356
Mining and Quarry	22,221	26,599	31,805	34,362	39,331
Manufacturing	315,291	403,034	497,053	595,873	706,561
Construction	62,641	74,449	102,124	133,438	170,893
Electricity and Water Supply	33,279	35,298	42,465	47,687	52,941
Transportation and Communication	99,344	116,611	138,085	157,319	175,686
Wholesale and Retail Trade	223,129	266,257	306,725	377,527	426,233
Banking, Insurance and Real Estate	49,980	66,220	87,203	122,063	134,342
Ownership of Dwellings	51,773	55,416	60,457	66,238	71,589
Public Administration and Defense	51,773	55,416	60,457	66,238	71,589
Service	185,008	207,086	246,248	291,952	324,012
Gross Domestic Product (GDP)	1,299,913	1,559,804	1,856,476	2,182,100	2,509,427
Plus: Net Factor Income	-22,394	-24,770	-23,347	-27,118	-38,684
Gross National Product (GNP)	1,277,519	1,535,034	1,833,129	2,154,982	2,470,743
National Income (NNP)	1,011,343	1,198,771	1,439,894	1,672,722	1,913,410
Per Capita GNP (Baht)	23,911	28,258	33,200	38,426	43,405

Source: *National Income of Thailand*, Rebase Series, 1980 - 1991, Office of the National Economic and Social Development Board.

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Table 6.3 Persons in the Labour Force, 1972-1992

Year	Total	Employed	Unemployed	Unemployment Rate (%)
1972	16,214,960	16,129,490	85,470	0.53
1974	17,231,640	17,159,140	72,500	0.42
1976	18,565,540	18,410,910	154,630	0.83
1977	20,476,800	21,229,600	190,200	0.89
1981	24,579,200	24,366,100	213,100	0.86
1983	25,848,900	25,183,400	665,500	2.57
1984	26,743,600	25,998,800	744,800	2.79
1986	27,835,800	26,690,700	1,145,100	4.11
1987	29,552,200	27,639,100	1,213,100	6.47
1988	30,512,200	29,464,000	1,048,200	3.44
1989	31,205,700	30,611,900	593,800	1.90
1990	31,749,600	30,843,700	905,900	2.85
1991	32,143,000	31,272,700	870,300	2,71
1992*	31,459,000	30,087,600	1,371,400	4,36

*Figures are estimates only.

Source: 1. Report of the Labour Force Survey (Round 2), 1972-1991, National Statistics Office, Thailand

2. Report of Labour Force Survey, Whole Kingdom (Round 3) 1991, and (Round 1) 1992, National Statistics Office

Table 6.4 Employed Persons by Level of Educational Attainment, 1972-1992

Unit: Thousand

Level of Education	Employed Persons					
	1972	1980	1988	1990	1991	1992
TOTAL	16,129.5 (100)	22,523.9 (100)	29,273.5 (100)	30,843.7 (100)	31,272.7 (100)	30,087.6 (100)
Primary and Lower	15,192.4 (94.19)	20,584.0 (91.39)	24,702.5 (84.39)	25,802.4 (83.66)	25,923.9 (82.90)	24,450.7 (81.27)
Lower Secondary	583.1 (3.62)	854.5 (3.79)	1,477.8 (5.05)	1,772.1 (5.75)	1,957.7 (6.26)	2,098.3 (6.97)
Upper Secondary		169.2 (0.75)	720.1 (2.46)	764.9 (2.48)	773.1 (2.47)	806.4 (2.68)
Vocational Certificate	95.1 (0.59)	286.6 (1.27)	793.3 (2.71)	916.1 (2.97)	817.6 (2.61)	809.8 (2.69)
Tech Voc Diploma	20.1 (0.12)	77.5 (0.34)	336.7 (1.15)	360.9 (1.17)	430.9 (1.38)	468.8 (1.56)
Voc Short Course	13.2 (0.08)	4.1 (0.02)	11.6 (0.04	12.3 (0.04	13.7 (0.04)	6.3 (0.02)
University (academic)	56.4 (0.35)	165.8 (0.74)	526.9 (1.80)	639.3 (2.07)	728.7 (2.33)	738.9 (2.46)
Teacher Training	153.3 (0.95)	339.8 (1.51)	572.4 (1.95)	555.9 (1.80)	606.7 (1.94)	677.2 (2.25)
Others and unknown	15.9 (0.10)	42.4 (0.19)	132.2 (0.45)	19.8 (0.06)	20.4 (0.07)	31.2 (0.10)

Note: 1. Employed person, 11 years of age and over in 1972-1988

2. Employed person, 13 years of age and over in 1990-1992

Source: 1. *Report of the Labour Force Survey*, Whole Kingdom (Round 3) 1972 - 1980, National Statistics Office, Thailand.

2. *Report of the Labour Force Survey*, Whole Kingdom (Round 3) 1988, 1990-1991, Round 1 for 1992 National Statistic Office, Thailand.

Table 6.5 Distribution of Persons Employed in Industries (Percentage)

Industry	Percentage of Employed Persons					
	1987	1988	1989	1990	1991	1992*
Total	100%	100%	100%	100%	100%	100%
Agriculture	59.33	62.68	60.65	63.95	60.26	60.17
Mining	0.22	0.23	0.17	0.17	0.14	0.13
Manufacturing	10.46	9.42	11.06	10.16	10.88	11.03
Construction	3.12	2.92	3.37	3.33	3.42	3.60
Electricity, Gas, Water and Sanitary Service	0.46	0.43	0.42	0.35	0.40	0.39
Commerce	11.79	10.93	10.92	9.65	.23	11.10
Transport, Storage and Communication	2.58	2.39	2.49	2.38	2.52	2.51
Service	11.49	10.98	10.84	9.94	11.15	11.07
Others	0.05	0.03	0.04	0.07	-	-

* Estimated figurea only.

Source: Table 1.4, *Yearbook of Labour Statistics*, 1990-1991, Department of Labour Protection and Welfare, Ministry of Interior, Thailand

Table 6.6 TVET Development Project, 1992 - 1996

Unit: Million Baht

	Project Title/Organization	Budget Plan
	The Office of National Primary Education Commission	
1	*Teacher Training*	
	1.1 Teaching-learning development for TVE elementary basis	122.10
2	*The Office of Rural Education*	
	2.1 Occupational promotion for rural area people	53.00
	2.2 Continuing occupation training promotion in Pattaya Municipal area	24.00
3	*Department of Arts*	
	3.1 Improvement of educational technology in arts and dancing college	6.89
	3.2 Build up the college of arts and dancing in regional area	78.21
	3.3 Improvement of educational technology in college of arts	43.80
4	*Department of General Education*	
	4.1 Self-Employment promotion in secondary school	86.00
	4.2 Basic vocational training promotion in secondary school	1,200.00
	4.3 Self-employment promotion in special school (handicap)	5.00
	4.4 Vocational training promotion in special school (handicap)	1.49
	4.5 Teacher training in vocational instruction for secondary school	20.08
5	*Department of Vocational Education*	
	5.1 TVET Development in Rural Area	125.00
	5.2 Chumporn Technical College Development	305.00
	5.3 Sattle Industrial and Community College in Bukdaharn and Mae Hong Son Province	109.00
	5.4 Sattle Chumporn Fishery College	106.00
	5.5 Sattle Chumporn Polytechnic College	35.80
	5.6 Sattle Lop Buri Polytechnic College	53.30
	5.7 Sattle Navomintrachutis College	57.50
	5.8 Sattle Industrial and Community College in Eastern Sea Board Area	103.50

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Table 6.6 TVET Development Project, 1992 - 1996 (cont'd)

Unit: Million Baht

	Project Title/Organization	Budget Plan
5	*Department of Vocational Education* (cont'd)	
	5.9 Sattle 6 Area Vocational Centre for Agricultural Training in Payao, Pracheub, Nongkai, Pattani, Utaladit, Burirum Provinces	75.00
	5.10 Sattle Polytechnic College in 20 district	504.00
	5.11 Doi tung Development for Hill Triple People	3.00
	5.12 Royal Development in North Eastern Part	191.50
	5.13 Royal Development in four Agricultural Colleges	17.50
	5.14 New Curriculum for market demand in technology	640.00
	5.15 Open opportunity in TVET short course training and bridge course	30.60
	5.16 Agricultural Corporation Development in Agricultural Colleges	12.75
6	*Rajamangala Institute of Technology*	
	6.1 Sattle Klikangwon Campus to serve Southern Sea Board	235.66
	6.2 Extension and development TVET in Advance and Modern Technology	925.09
	6.3 Sattle Research and Agricultural Training Centre in Sakon Naborn Province	237.96
	6.4 Sattle Staff Development for Eastern Sea Board Development	322.92
	6.5 Sattle Research and Development Centre for Horticulture in Chumporn	224.65
	6.6 Modern Fishery Process Development	56.20
	6.7 Cattle Development in Karasin Campus	25.36
	6.8 Print Technology Development Centre	66.37
	6.9 Animal, Food Production Labouratory Development	73.72
7	*Department of Non-Formal Education*	
	7.1 Occupation Training Development for the people along the boarder	690.02

Source: "National Education Plan, 1992-1996". National Education Commmission Office.

Table 6.7 Sample of Course Offerings in Vocational CertificateProgramme, 1992

Main Area	Course Offerings
Trade and Industry	Auto-mechanics, Construction, Electronics, Electricity, Textile Industry, Ship Building, Metallic Mechnical, Printing, Optics and lens techniques, Production Technology, Photography and Cinematography, Practical chemistry, Textile Chemistry, Industrial Chemistry, Farm Mechanics, Machine Mechanics, Mechanical Drafting, Furniture Technology, Welding and Sheet Metal, Plumbing and Welding, Architectural Design, Textile Technology, Product Industrial Design, Ceramic Industry, Cloth Industry
Home Economics	General Home Economics, Clothing and Dressmaking, Food and Nutrition, Clothing Technology
Commerce	Commerce, Tourism Industry, Public Relations, Press and Printing Business, Sale, Marketing, Accounting, Secretarial, Business Foreign Language
Arts and Crafts	Fine Arts, Applied Arts, Leatherwork, Handicrafts, Industrial Crafts, Photography, Arts and Crafts Technology
Agriculture	Plant Pathology, Animal Science, Agriculture, Mechanics, Livestock, Fishery, Agro-industry, Agri-business, Vegetable Crops, Agronomy, Pomology, Ornamental Horticulture, Poultry, Small Animal, General Agriculture

Source: Dove, Vocational Certificate Curriculum, 1992
RIT, Vocational Certificate Curriculum, 1992

Table 6.8 Sample of Course Offerings in Diploma Program, 1992

Main Area	Course Offerings
Industry	Technical Engineering, Civil Engineering, Architecture, Production, Mechanical Engineering, Electrical Engineering, Mining Engineering, Petro-Chemical Engineering, Cooling System and Air-Conditioning, Instrumentation, Photography and Cinematography, Printing Technology, Mineral Technology, Practical Chemistry, Textile Chemistry, Industrial Chemistry, Farm Mechanics, Auto Machine Tool, Tool and Die Design, Highway Construction Technology, Surveying, Civil Drafting, Furniture Technology, Product Development, Marine Technology, Heavy Equipment Technology, Plumbing and Welding, Architectural Design, Interior Architecture, Tool and Die making, Refrigeration and Aircondition Mechanics, Auto Refrigeration and Air conditioning, Auto Steam Technology, Metallurgy, Computer Maintenance, Industrial Technical Agriculture, Industrial Technology, Textile Technology, Cloth Technology, Communication Arts, Construction Management, Real Propoerty Valuation, Landscaping,Sanitary and Environment Science, Product Industrial Design, Clothing Industrial Design, Industrial Manufacturing
Home Economics	General Home Economics, Clothing and Dressmaking, Food and Nutrition, Home Administration, Educational Family, Food Technology,Information Home Economic
Commerce	Accounting, Banking, Marketing, Secretarial Science, Hotel management, Advertising, Tourism, Computer, General management, Foreign language, Business Language
Arts and Crafts	Fine Arts, Applied Arts, Handicrafts, Photography Art, Music, Ceramic, Textile Dying, Leather Work, Wood Work, Bamboo and Rattan Crafts, Lacquer Work, Metal Work, Cast Work, Thai Painting, Western Painting, Thai Sculpture, Western Sculpture, Graphic Arts, Decorative Design, Product Design, Commercial Arts
Agriculture	Field Crops, Ornamental Horticulture, Vegetable Crops, Fruit Trees, Fishery, Poultry, Small Animals, Dairy Farm, Beef Production, Agricultural Mechanics, Irrigation, Agri-Business, Agro-Industry, General Agriculture, Fibre Technology, Food Technology, Landscape Technology, Fishery, Veterinary Technology, Animal Science, Agricultural Mechanization Technology

Source: DOVE, Vocational Curriculum, 1992
RIT, Diploma Level Curriculum

Table 6.9 Sample Course Offering in Bachelor Degree and Post Graduate, 1992

Main Area	Course Offerings
High Technology Bachelor	Electronics, Communication Electronics, Auto Mechanics, Production Technology, Welding and Mechanical Service
Industrial Education Bachelor	Mechanical, Electrical, Civil, Electronics, and Industrial Engineering; Computer Technology; Technical Education; Chemical Industry; Printing Technology; Architecture; Interior Architecture; Industrial Arts; Telecommunication
Master	Technical Education Administration; Mechanical, Electrical, and Civil Engineering; Education Technology; Industrial; Computer; Architecture
Doctoral	Technical Education Administration
Business Administration Bachelor	Information Systems, Secretarial, Marketing, Accounting
Home Economics Bachelor	Textiles and Clothing, General Home Economics, Food and Nutrition, Clothing Technology

Table 6.9 Sample Course Offering in Bachelor Degree and Post-Graduate, 1992 (cont'd)

Main Area	Course Offerings
Fine Arts Bachelor	Painting, Applied Arts, Commercial Design, Sculpture, Graphics, Arts and Crafts, Product Design, Decorative Design
Agriculture Bachelor	Animal Technology, Plant Technology, Plant Agronomy, Horticulture, Agricultural Mechanization, Agribusiness Administration, Animal Science

Source: KMIT, DOVE, RIT Curriculum, 1992

Table 6.10 Sample of Short-Term Course Offerings in DOVE

Main/Sample Sub-Area	Partial List of Course Offerings (Subjects)
Trade and Industry (12 sub-areas, 76 subjects) Auto Mechanics (15subjects)	Benzine Auto- Mechanical Repair, Auto- Electric Wiring, Auto-Body Repair, Motorcycle Repair, Auto Break Repair, etc.
Radio-Television (14 subjects)	Transistor and IC Repair, Disc Circuit Production, Basic Digital, Vacuum Tube Amplifier Repair, Colour TV Repair, Telephone Installation and Repair, etc.
Electricity (15 subjects)	Electrical Wiring, AC Motor Control, Electric Fan Repair, etc.
Commerce (5 sub-areas, 40 subjects) Accounting	Trade Distribution Accounting, Computer Accounting, Partnership Accounting, Cost Accounting, Sole Accounting and Documentation, etc.
Business	Public Relations, Consumed Trade Distribution, Housewife Assistance, Hotel Front Desk, Tourism Management, etc.
Home Economics (6 sub-areas, 78 subjects) Food and Desserts (16 subjects)	Food for Career, Cake Decoration, Thai Dishes, European Dishes, Japanese Dishes, Food Preservation, Beverage, etc.
Tailoring (19 subjects)	Modern tailoring, Local Shirt Suit, Sports Suit, Jacket, Royal Pattern Uniform, Trousers, etc.
Dressmaking (26 subjects)	Basic skirt, Flared skirt, Pant skirt, Basic blouse, Ready made dress, Design, Industrial Sewing Machine Usage, Slacks, Hawaiian Blouse, Shirt making, etc
Arts and Crafts (7 sub-areas, 71 subjects) Creative Arts (7 subjects)	Cloth flowers, Artificial flowers, Fruits carving, Mobiles, etc.
Music (13 subjects)	Basic Computer Music, Orchestra, Guitar, Electone, Piano, etc.
Agriculture (3 sub-areas, 24 subjects) Plant Science (10 subjects)	Landscape Gardening, Mushroom Culture in Plastic bag, Out-of-season Mango Production, Rose Culture for commerce, etc.

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Table 6.11 Unemployment by Level of Education, 1992

Level of Education	Unemployed Persons				
	Looking for work		Not looking but available for work		Percentage in the Labour Force
	No.	%	No.	%	%
Primary and Lower	75,500	10.87	619,300	89.13	2.16
Lower Secondary	25,000	38.82	39,400	61.18	0.20
Upper Secondary	12,100	40.74	17,600	59.26	0.09
Vocational Certificate	23,000	55.69	18,300	44.31	0.13
Tech Voc Diploma	8,900	57.42	6,600	42.58	0.05
Voc Short courses	-	-	-	-	-
University (academic)	7,400	69.16	3,300	30.84	0.03
Teacher Training	3,100	25.83	8,900	74.17	0.04
Others and Unknown	1,000	52.63	900	47.37	0.01
TOTAL	156,000	17.92	714,300	82.08	2.71

Source: National Statistics Office, 1991 (Round 3)

Table 6.12 New Registered Applicants, Vacancies and Placements by Level of Educational Attainmanet, 1991

Level of Education	New Application	Vacancies	Placements
TOTAL	145,049	307,906	102,131
Primary and Lower	62,390	124,249	47,271
Secondary	46,426	65,486	33,845
Vocational	27,710	41,637	17,578
Vocational Certificate	16,030	32,869	10,693
Vocational Diploma	8,918	8,430	5,787
Technical Diploma	2,762	347	1,098
Teacher Training	1,065	118	399
University	6,040	4,602	2,018
Short-Term Vocational Course	176	29	70
Others	1,242	71,785	950

Source: Yearbook of Labour Statistics, 1991, Department of Labour Protection and Welfare

Table 6.13 Employed Persons** by Occupation, 1988-1992 (in per cent)

Unit: Percentage

Occupation	1988	1989	1990	1991*	1992*
TOTAL	100%	100%	100%	100%	100%
Professional, Technical and Related Workers	3.58	3.43	3.35	3.47	3.44
Administrative, Executive and Managerial Workers	1.56	1.60	1.43	1.56	1.52
Clerical Workers	2.94	2.80	2.85	2.70	2.83
Sales Workers	10.24	9.94	8.72	10.20	10.02
Farmers, Fisherman, Hunters, Miners, Quarrymen and Related Workers	62.55	60.53	64.05	62.07	61.43
Workers in Transport and Communication	2.67	2.84	2.78	2.72	2.88
Craftsmen, Production Process Workers	12.70	14.97	13.14	13.47	13.65
Service, Sports and Recreation Workers	12.70	14.97	13.14	13.47	13.65
Service, Sports and Recreation Workers	3.73	3.83	3.59	3.76	4.23
Workers not Classified by Occupation	0.03	0.06	0.09	0.05	-

* Figures are estimated only.
** Employed Persons, 13 years of age and over

Source: Table 1.5, Yearbook of Labour Statistics, 1991, Department of Labour Protection and Welfare, Ministry of Interior, Thailand

Table 6.14 Labour Requirement by Occupation, Educational Attainment and Experience, 1991

Occupation	Educational Attainment							Experience (in number of years)					
	Total	Primary	Secondary	Vocational*	University	Others	Not Adequately Described	1	2	3	4	5 and over	Not adequately Described
TOTAL	251,978	83,548	42,129	45,352	20,993	3,888	56,068	54,474	27,346	7,373	5,058	3,536	154,191
Professional, Technical and Related Workers	16,075	124	485	4,988	9,282	3,888	1,184	3,447	1,758	670	52	171	9,977
Administrative, Executive and Managerial Workers	1,706	19	23	397	1,202	2	62	192	400	378	54	462	220
Clerical and Related Workers	35,830	676	9,129	17,467	7,740	127	691	9,011	3,766	1,273	381	183	21,216
Sales Workers	27,018	4,822	7,593	5,622	2,220	520	6,241	6,441	1,175	420	1	20	18,961
Service Workers	32,911	21,470	4,136	595	99	447	6,164	4,768	984	374	202	283	26,300
Agricultural, Animal Husbandry and Forest Workers, Fishermen and Hunters	1,473	36	239	7	42	-	1,149	725	47	320	-	23	358
Production and Related Workers, Transport Equipment Operators and Labourers	136,965	56,401	20,524	16,276	407	2,780	40,577	29,890	19,216	3,938	4,368	2,394	77,159

*Include TVE Certificate and Diploma Level

Source: Yearbook of Labourr Statistics, 1991, Department of Labour Protection and Welfare, Ministry of Interior

Table 6.15 Employed Persons by Work Status, 1988-1992

Unit: Percentage

Work Status	1988	1989	1990	1991	1992*
Total	100	100	100	100	100
Employer	1.33	1.49	1.23	1.62	1.84
Government Employee	6.69	6.43	5.99	6.17	5.85
Private Employee	23.33	25.01	22.46	26.32	26.80
Own Account Worker	30.59	30.98	29.75	30.17	29.85
Unpaid Family Worker	38.06	36.09	40.57	35.72	35.66

*Figures are estimated only

Source: Department of Labour Protection and Welfare 1991

Table 6.16 Labour Requirement by Firm Group and TVET Level/Field of Study, 1991

Firm Group	TVET Level/Field of Study					
	Skilled Labour	Vocational Certificate	Vocational Diploma	Technical Diploma	Bachelor's Degree	Post Graduate
Production and Industry	Industrial Sewing Electrical Skills Mechanical Skills	Accountant Industrial Trade Mechanical Trade Marketing Equipment Maintenance	Electrical Engineer Accountant Marketing Secretary Industrial Engineer Electronics Engineer Mechanical Engineer	Accounting Technology Industrial Technology Marketing Technology	Accountancy Mechanical Engineer Electrical Engineer Industrial Engineer Marketing Science Engineer Secretary	Business Administration Engineering Accountancy Marketing
Business and Service Consultant, Investment, Tourism, Product Exhibition, Marketing, Research, Maintenance	Agriculture Auto Trade Skills Auto Repair and Maintenance Skills	Accountancy Marketing Secretary Auto-Mechanic Electrical Trade	Accountancy Marketing Secretary Agriculture Home Economics Electronics	Home Economics Technology	Accountant Computers Marketing Engineering Business Administration Journalism and Communication	Marketing Economics Computers Accountancy Engineer Business Administration

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Table 6.16 Labour Requirement by Firm Group and TVET Level/Field of Study, 1991 (cont'd)

Firm Group	TVET Level/Field of Study					
	Skilled Labour	Vocational Certificate	Vocational Diploma	Technical Diploma	Bachelor's Degree	Post Graduate
Import-Export Business	Auto trade skills Factory Mechanics Welding Skills Mechanical Maintenance Mechanical Skills Car Drivers	Marketing Accountancy Typist Office Work (Clerk) Auto Mechanics	Accountancy Marketing Computer Secretary Auto Mechanics Mechanical Engineer Office Management Home Economics	Accountancy Marketing Electronics	Accountancy Marketing Administration Secretary Mechanical Engineer Computers Economics Finance Arts and Science Overseas Business Food Sciences Mineral Analysis	Administration Marketing Accountant Mechnical Engineer Overseas Business Economics Computers Finance Information System Management
Finance and Insurance Business	Construction Skills Electronics Skills Car Drivers	Accountancy Marketing Commerce Secretary Business Administration	Accountancy Marketing Business Administration Computers Secretary Finance Management Statistics	Accountancy Finance Banking Service Marketing Statistics Computers	Accountancy Economics Business Administration Marketing Computer Law Political Science Insurance Statistics Management	Business Administration Economics Marketing Accountancy Computers Finance

Source: Manpower Development for Middle level, 1991, Office of the Secretary of Public and Private Corporation for TVE Development

Table 6.17 Number of TVET Staff Upgrading by CPSC, 1974-1992

Course	DOVE	RIT	KMIT NB	KMIT Th	KMIT LB	DTEC	Others	Total
Total	55	62	36	19	8	4	12	196
Senior Administrator	8	2	3	2	-	3	-	18
Policy Analysis	1	1	-	-	-	-	-	2
Planning and Management	10	18	4	4	1	-	1	38
Curriculum Design	5	10	3	-	1	-	-	19
Module Development, Design for Learning in Technician Education	1	6	2	1	-	-	2	12
Agricultural Education	2	2	-	-	-	-	-	4
Standard in Technician Education System	-	1	-	-	-	-	-	1
Environmental Education	2	1	2	1	-	-	1	7
Human Behaviour for Industrial Development Work	3	2	2	1	1	-	-	9
Information System and Network	3	2	-	3	-	1	-	9
Research and Evaluation in Technician Education	5	6	1	2	1	-	1	16
Tech Teacher Development (Quality, capacity, innovation, problem solving)	6	2	4	1	2	-	-	15
Women Tech Development	2	1	3	1	-	-	1	8
Computer-Aided Instructional Materials Development CAD/CAM	1	1	7	2	1	-	-	12

Table 6.17 Number of TVET Staff Upgrading by CPSC, 1974-1992 (cont'd)

Course	DOVE	RIT	KMIT NB	KMIT Th	KMIT LB	DTEC	Others	Total
Entrepreneurship Development	-	1	-	-	-	-	-	1
Human Resource Management and Development in Technician Education	3	2	1	-	-	-	-	6
Evaluation of Technician Education Std Innt and Programme	3	4	4	-	-	-	-	11
Accountability in Technician Education	-	-	-	1	1	-	-	2
Technician Institution in Rural Development	-	1	-	-	-	-	1	2
Hydrometric Technicians	-	-	-	-	-	-	5	5

Note: Other units are: MOE, Central Project Unit, Community Development Department, Ministry of Interior, The Education Society of Thailand, Ramkamhaeng University, Sukhothai Thammathirat University, Khon Kaen Hydrological Centre,Royal Irrigation Department, Land Development Department, Meteorological Department, Electricity Generating Authorityof Thailand, Rajburi Industry Office.

Table 6.18 In-Country Courses conducted by CPSC, 1974 - 1992

Course	Duration	DOVE	RIT	KMITNB	KMITT	KMITL	Other Org'n/ Ministry	Private Agency	Total
Total		218	163	42	13	25	16	3	480
Planning Curriculum Design and Teacher Development	14-22 July 1975	8	19	1	-	-	10	3	41
Instructional Planning, Design and Delivery Technician Education	18 - 28 Oct. 1978	18	7	-	-	-	-	-	25
Effective Management of Technical Institutions	17 - 28 Nov 1980	7	18	2	-	-	-	-	27
Management of Technician Colleges	14 - 25 June 1982	80	-	-	-	-	-	-	80
Curriculum Implementation	23 Aug - 3 Sept 1982	-	29	-	-	-	-	-	29
Develop Skills in Module Writing	16 Apr - 1 May 1984	1	17	1	-	-	2	-	21
Research in Curriculum Development	4 - 15 June 1984	8	7	19	1	1	1	-	37
Developing Skill in Production of Instructional Materials for In-Service Teacher Upgrading	25 Feb - 8 Mar 1985	8	7	5	2	2	-	-	24
College Performance Evaluation	3 - 14 Feb 1986	28	-	-	-	-	-	-	28
Innovation in Instructional Materials Development and Evaluation	14 - 24 Sept 1987	10	8	5	2	1	3	-	29
Use of Computer in Technician Education	17 - 27 April 1989	-	22	3	3	4	-	-	32
Industry Technician Institution Collaboration	7 - 11 May 1990	14	11	2	1	2	-	-	30
Manpower Planning	2 - 6 Sept 1991	17	8	3	4	15	-	-	47
Management of Technician Education System for Higher Productivity	7 - 11 Sept 1992	19	10	1	-	-	-	-	30

Source: CPSC, 19740-1992

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Table 6.19 TVET Research and Development Project Government Budget, 1992

Field Area	DOVE	RIT	KMITNB	KMITT	KMITL
Budget (million)	1.45	76.31	17.20	11.26	9.89
Total Project	24	154	29	49	-
Industry	1	17	27	-	-
Agriculture	15	86	-	-	3
Home Economics	-	2	-	-	-
Management	1	-	-	-	-
Teaching Learning	5	34	-	-	-
Public-Private Corporate	1	-	1	-	-
Manpower Requirement	1	-	-	-	-
Science and Technology	-	15	1	49	1

Source: Budget Bureau 1992, Office of the Prime Minister.

Part VII

WOMEN IN TVE POLICY DEVELOPMENT

Thailand has not had any specific policy for women development. The women have had a significant role to play in the social and economic development throughout Thai history. The role of women is on going as the time go by. In the past the way of life was natural and easy, so the women played the role of family care and home care. The TVE is involved in the field of home economics in the area of food and nutrition, cloth, weaving, flower, embroidery, and handicraft. With the changes in economy to open economy in the world competition, the society has also changed to the modern economic society. The ways of women life have changed too. This is because of the equal human rights in Thailand. Everyone, whether a man or a woman, has a role to play in developing the country if he or she is so willing. Hence, after the second world war, more women are seen in the labour market, and engaged in all spheres of economic activities, in every sector of economy. They are judged to demonstrate competencies equal to male capabilities. In some production areas, employers prefer to hire women more than men, such as in the area of textile, electronics, ceramics, packaging, food process, office management, etc.

7.1 Student, Teaching Staff, Administrator

According to the market demand, TVET has also provided more courses to serve the requirement. The students enrolment show that the majority of women TVET students attends courses in the areas of Commerce, and Home Economics (See Table 7.1) The ratio of total enrolment in all levels shows the ratio of male:female at the rate of 5:4. Teaching staff indicates the total ratio of 3:2. Head office and vocational college have the ratio of female more than male (see table 7.2). Administrators show that female have less opportunity to take the higher ranks than male in TVET system. (See Table 7.3).

7.2 Occupational Engagements

Women who reside in the cities and towns mostly take up commerce. In urban areas greater number of women is engaged in industrial occupations while in rural areas majority is engaged in agriculture (see Table 7.4). Occupational status in 1990 indicated that 18.7 per cent of employed women were engaged in private personal employment, 61.5 per cent in family business as unpaid family workers, 0.6 per cent as employers in family business, 3.4 per cent in government employment and 15.8 per cent in private employment.

Employment conditions for women is generally found to be similar to men if they worked in similar conditions and locations, e.g. potteries, gem cutting, food services, cleaning, etc. Wages are also on the same basis. Both males and females are subjected to the same kinds of treatment under the labour laws in work pays, compensations, overtimes, and welfares. However, women were placed under special protection by virtue of sex in some area of work conditions such as not to subject women to hazardous conditions; to heavy type of work; too hard for lifting, carrying, pulling, carrying on one's head, pushing etc. Besides, women are allowed special treatment in child birth taking leave for 90 days.

Working condition generally for men and women are subject to similar working conditions if they perform the same job within the same industry. The welfare and fringe benefits are also similar to men under the same conditions. Women are subject to similar potential hazards of the body and health as well as men. The job performance at midnight shifts i.e. between 24.00 - 06.00 hours which require women employee to work is forbidden.

7.3 Job Opportunity

The national policy supports and encourages women to seek employment. The society also opens the opportunity for women to be employed in a variety of occupations and industries by allowing women to get any type of education. Almost all kinds of businesses and industries have opened employment opportunities for women workers because they recognize the capacity of women as being equal to that of the men. The rapid expansion of economy necessitated more women to be employed to replace men so that men may be ensured to take up the job that normally is not suitable for women, such as high storey construction, deep sea fisheries, and sea transports, etc. The government sector opened more jobs for women. Women find country and hard jobs more challenging which made them as effective as men.

7.4 Problems and Obstacles

From the labour studies in 1990, the Department of Labour found that there was limited acceptance of women in the executive or supervisory positions; in the leadership positions, to enable them to bargain for women's better standing in the world of employment. The women's organization were still working for improving the situation mainly due to low participation as a result of women being unable to disengage themselves from family chores.

Table 7.1 TVET Students (Formal Education) Classified by Field of Study and Sex, 1992

Unit: Thousand

Field of Study	DOVE		RIT		PTVE		Total		Male : Female
	M	F	M	F	M	F	Male	Female	
Industry	141,561	4,013	25,186	2,259	98,640	11,175	265,387	17,447	15 : 1
Commerce	8,258	71,229	4,774	18,810	33,934	141,197	46,966	231,236	1 : 5
Home Economics	409	15,097	159	3,464	-	-	568	18,561	1 : 33
Arts & Crafts and Music	4,342	3,751	2,003	1,303	4,412	1,451	10,757	6,505	2 : 1
Agriculture	8,157	2,079	5,151	2,396	575	241	13,883	4,716	5 : 2
Total	162,727	96,169	37,273	28,232	137,561	154,064	337,561	278,465	5:4

Note: M = Male F = Female
Source: DOVE, RIT and OPEC Statistic 1992

Table 7.2 TVET Personnel by Education, Qualification and Sex Department of Vocational Education, 1992

Organizational	Doctoral		Master		Bachelor		Undergraduate		Total		Rate
	M	F	M	F	M	F	M	F	M	F	M:F
Head Office	1	3	46	37	148	184	73	126	268	350	3 : 4
Agricultural Colleges	10	3	212	108	1,430	800	174	29	1,826	940	2 : 1
Technical Colleges	-	-	165	81	3,726	1,832	2,139	340	6,030	2,253	3 : 1
Vocational Colleges	1	2	52	91	670	2,091	44	132	767	2,316	1 : 3
Industry and Community College & Polytechnic College	1	-	26	12	426	553	482	138	935	703	3 : 2
Total Instructors	11	5	455	292	6,252	5,276	2,839	639	9,558	6,212	3 : 2
Grand Total Personnel	12	8	501	329	6,400	5,460	2,912	765	9,826	6,562	3 : 2

Note: M = Male, F = Female
Source: DOVE Statistic 1992

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Table 7.3 TVET Administrators by Sex, 1992

Administrator	DOVE		RIT		KMITNB		KMITT		KMITL	
	M	F	M	F	M	F	M	F	M	F
Head of Organization and Deputy	4	-	6	2	6	1	6	1	6	1
Technical Experts and Senior Specialist and Assistant	5	3	4	2	-	-	3	1	-	-
Head of Division and Institution	10	2	7	1	7	3	5	3	5	4
Head of Section	30	18	40	8	80	4	20	14	30	8
Director of College/Campus	176	39	28	3	-	-	-	-	-	-
Dean of Faculty	-	-	7	2	3	1	3	2	5	1

Table 7.4 Women Employed: Urban vs Rural by Occupation and Industry

Occupations	Percentage		Industry	Percentage	
	Urban	Rural		Urban	Rural
Total	100.0	100.0	Total	100.0	100.0
Academic Profession	10.4	2.4	Agriculture	4.2	76.2
Administrative, Managerial	3.4	0.2	Mining	0.0	0.1
Clericals	11.8	1.4	Manufacturing	21.1	6.9
Commerce, Sales	31.6	9.8	Construction	1.2	0.7
Agriculture, Farmers	4.1	76.1	Public Utilities	0.4	0.1
Transportation & Communication	0.8	0.2	Commerce	32.3	9.1
Craftsman, Production Process	20.5	8.1	Transportation & Communication	1.8	0.2
Services	17.3	1.8	Service	38.8	6.7
Others	0.1	0.0	Not Adequately described	0.2	0.0

Source: Department of Labour, "Labour Studies", Planning Division 1990

Table 7.5 Hours of Employment by Sex, 1990

Unit: Percentage

Hours	Male	Female
Total	100	100
Less than 10 hours	0.1	0.2
10 - 19	1.2	1.5
20 - 29	2.8	4.5
30 - 39	11.8	12.9
40 - 49	23.6	26.9
50 and more	60.5	54.0

Source: Department of Labour, "Labour Study" 1990

Part VIII

KEY TVET INSTITUTIONS

Key TVET Institutions in this country profile mean the organizations or institutions which provide high quality TVET programmes in areas of advance technology, dynamic and management process. They have mostly active staff, well versed in innovation and development, as well as research. The Institution has a main role of TVET promotion and is also well-known in international co-operation.

CPSC is proud to introduce one key TVET Institution in Thailand which is close to the above meaning. This is the

King Mongkut's Institute of Technology
North Bangkok (KMIT-NB)

8.1 Background

King Mongkut's Institute of Technology North Bangkok (KMIT-NB) was established in 1959. It is a tertiary institution of learning which has the task of educating and training technical teachers and administrators as well as science and technical manpower to fill the needs for industrial development, especially in the technology-based production industries. The institute's aim is also to make available academic service to other institutions or agencies in the areas of technical education, science, technology and engineering. As a consequence, KMIT-NB has very strong horizontal and vertical linkages concerning education and training, research and development and provision of services in the area of science and technology. In terms of horizontal linkages, there are 44 programmes for scientists, technical teachers and administrators, engineers, technologists, technicians and skilled workers. For vertical linkages, KMIT-NB offers vocational certificate, technician diploma, bachelor, master and doctoral degrees. Therefore, KMIT-NB has a very high potential to provide support to the country's industrial, technological, and economical development.

8.2 Chronology of KMIT-NB

1959 : Thai-German Technical School
1964 : Thai-German Technical Institute

1971 : King Mongkut's Institute of Technology
- North Bangkok Campus
- Thonburi Campus
- Ladkrabang Campus

1986 : King Mongkut's Institute of Technology North Bangkok

8.3 Location

The institute has two sites: in Bangkok and in Chachoengsao Provinces. In Bangkok, KMIT-NB is situated close to the banks of the Chao Praya River, Bangsue District, occupying 126,348 m^2 of space, comprising 31 permanent buildings and 2 under construction.

In Chachoengsao Province, KMIT-NB is located in Plaengyao District and Bangnampleo District, occupying 2,960,000 m^2.

8.4 Infrastructure

KMITNB comprises nine units: President's Office; Faculty of Applied Science; Faculty of Engineering; Faculty of Technical Education; Graduate College; College of Industrial Technology; Institute for Technical Education Development; Institute of Technological Development for Industry; and Central Library.

8.5 Administrative Board

There are two main boards: (1) The Council of KMIT-NB; and (2) The Steering Committee (Policy and Planning). The first board acts in an advisory role to the KMIT-NB President. The latter board is chaired by the KMIT-NB President, its members are the deans/directors of faculties/institutes as well as the Vice Presidents and other senior administrators of the institute.

8.6 Administrators

President :	Chana Kasipar:	B.Sc (Hons) (St Andrews), MSc Engl D.I.C.(Imperial College), PhD (Kassel)
Vice Presidents :		
Administration :	Bhaisal Hoonkeo	B.Eng (C.U.), MSEE (Iowa State)
Academic Affairs :	Tirachoon Muangnapoh	B.Eng (C.U.), MSME (Syracuse), Dr. Eng (INSA, Toulouse)
Research and Development :	Banleng Sornil	Dipl Eng (F.H. Cologne), M Tech Ed (KMIT-NB)
Planning :	Utomporn Phalavonk	B Sc (Hons), MSc (C.U.), PhD (U.N.SW)

Student Affairs : Paitoon Dhephasdin Na Ayuthaya B.TechEd (KMIT-NB)

8.7 Faculty and Staff

In 1992, there were 1,061 staff members which included: 415 full-time academic staff; 63 part-time academic staff; 449 permanent support staff; and 134 temporary employees.

8.8 Programmes of Studies and Student Enrolment

In 1992/1993 there were 56 programmes of studies, ranging from Vocational Certificate to Doctoral Degree. The total enrolment was 8,420 students, 91.96 per cent are male and 8.04 per cent are female students.

Ed Level	No. of Studies Programmes	No. of Students Enrolment	Percentage
Voc Certificate	3	988	11.73
Voc Diploma	12	1,317	15.64
Bachelor	19	5,305	63.00
Master	9	797	9.47
Doctoral	1	73	0.15

8.9 Student Graduate

In 1991, total number of student graduates was 1,672 students. These included: Voc Certificate - 310; Voc Diploma - 527; Bachelor - 747; and Master - 88.

8.10 Foreign Students

KMIT-NB offers special programmes for foreign students, teachers and others from various countries which include: Bhutan, China, Korea, Laos, Mongolia, Nepal, Pakistan, Philippines, Sri Lanka, Vietnam, and Germany. In 1991, there were 11 foreign students studying full-time, and 42 foreign participants in short course training.

8.11 Student Alumni

Up to 1991, there were 21,793 persons.

8.12 Finances

There are two sources of financing: the budget from the Thai Government and income from KMIT-NB's own resources. The budget has steadily increased from 140.29 million Baht in 1989 to 477.91 million Baht in 1992. It includes 278.12 million

Baht from government budget, and 190.79 million Baht from KMIT-NB's own resources.

8.13 Research Grants

Faculty members of KMIT-NB are active in conducting research and development. In 1992, more than 15 million Baht were provided for 46 research projects. The research funds/grants include: 3.43 million Baht supported by Ministry of University Affairs; 0.24 million Baht by KMIT-NB's own resources; and 13.77 million Baht by other government agencies, industry, foundation and individuals.

8.14 In-Service Training and Students Supported by Local Industry

In 1992, in-service programmes were offered for 1,699 personnel in industry as follows: 171 in Master's Degree programmes; 1,360 in Bachelor's Degree; and 168 in Vocational Certificate. TGTAC also supported 133 TVE teachers and administrators for training short courses.

8.15 Co-operation with Local Organizations

KMIT-NB has close co-operation with several organizations in education, training, research and development. They are:

- Department of Vocational Education (DOVE)
- Rajamangala Institute of Technology (RIT)
- National Institute for Skills Development (NISD)
- Office of the Private Education Commission (OPEC)
- Federation of Private Vocational School of Thailand
- Association of Private Higher Education Institution of Thailand
- Centres of Ministry of Science, Technology and Environment
- Kurusabha Business Organization
- Industrial Estate Authority of Thailand
- Federation of Thai Industries
- Employer's Confederation of Thailand
- Private Industries, enterprises and industrial estates
- National Dual Vocational Training Development Office
- Public and Private Corporation for Middle Manpower Development Committee

8.16 Co-operation with International Organization

Bilateral/Technical Co-operation Project

Germany - Thai-German Project for the Development of the Faculty of Engineering

- Thai-German Teaching Aid Centre (TGTAC)

	-	Co-operation in Welding Technology with Baden Wuerttemberg
France	-	Thai-French Innovation Centre
EC	-	Assistance of the Department of Chemical and Process Engineering
	-	Upgrading of Academic Standards in Mechanical Engineering

Institutional Linkages

Germany	-	Universities of Kassel, Paderborn, Bremen, Fachhochschule Koeln.
France	-	University of Poitiers, Paris Nord; ISMCM
Australia	-	University of New South Wales
	-	Victoria University of Technology
	-	Hawthorn Institute of Education
	-	University of Technology, Sydney
UK	-	University of South Bank, London
Canada	-	Vancouver Community College
	-	Canadore College
Vietnam	-	Centre of Research, Design and Production of Prototype Equipment for Vocational Training (CREDEPRO)

Co-ordinators/Members/Affiliated Members of International Organizations

- The International Association for Exchange of Students for Technical Experience (I.A.E.S.T.E.)
- International Association of University Presidents (IAUP)
- The Association of South East Asia Institutions of Higher Learning (ASAIHL)
- Colombo Plan Staff College for Technician Education (CPSC)

8.17 Future Plans

1. *Formal Education*
   - Establishment of Graduate Programmes using English as the medium of instruction.
   - Establishment of new areas in both undergraduate and graduate programmes.
   - Establishment of Sandwich courses and the Co-operative Education Programme
   - Establishment of TVET Distance Learning
   - Expansion of existing curricula etc.

2. *Non-formal Education and Training*
   - Expansion of the Dual System
   - Expansion of Short Courses in Advance and Modern Technology
   - Establishment of Meister Training etc.
3. *Strengthening research and development*
4. *Strengthening future organization*
5. *Strengthening further cooperation with other countries and institutions.*

In Thailand there are many key institutions leading to particular fields of study. The sample of key institutions leading to a particular field is shown in Table 8.1.

Table 8.1 Key TVET Institution by Leading Field

Institution	Field of Study
1. KMIT-NB	Machine Mechanics, TVET Teacher Training Mechanical Industry
2. KMIT-T	Energy and Materials
3. KMIT-L	Electronics and telecommunications, Architecture, Digital Comm System
Under DOVE	
1. KRABI Agricultural College	Fruit crop (oil palm)
2. Chon Buri Agricultural College	Horticulture, ornamental
3. Pichit Agricultural College	Sericulture
4. Pechaburi Agricultural College	Dairy farm
5. Mahasarakarm Agricultural College	Beef cattle
6. Rajchaburi Agricultural College	Swine farm
7. Lam Poon Agricultural College	Agro-industrial
8. Songkhla Fishery College	Fisheries, canfoods production process
9. Nakorn Rajasrima Agricultural College	Agronomy
10. Chieng Rai Agricultural College	Horticulture, ornamental
11. Kampangpech	Poultry farm
12. Samutprakarn Technical College	Production technology
13. Nakorn Sri Thammarat Technical College	Electronics
14. Minburi Technical College	Electricity
15. Patumwan Technical College	Auto mechanic, Machatonic
16. Khon Khon Technical College	Machine tool shop

Institution	Field of Study
17. Nakornrajsrima Tech College	Metal and Welding
18. Nong Kai Ship Building College	Ship building
19. Dusit Technical College	Building const, Architecture design
20. Rayong Technical College	Petro chemical technology
21. Rachasitharam Tech College	Printing technology
22. Thonburi Vocational College	Commerce, computer business
23. Chiengmai Vocational College	Hotel management, food & nutrition
24. Khonkhean Vocational College	Handicraft for export, food and bakery, home economics
25. Nakorn Pathorn Voc College	Cloth and dressing, cake decoration
26. Pranakorn Polytechnic College	Multiple trade short course
27. Saowapha Vocational College	Fine arts, food decoration, arts and crafts

Institution	Field of Study
Under RIT	
1. Songkhla Campus	Automotive technology
2. North Bangkok Campus	Electrical technology
3. North Eastern Campus	Civil technology
4. Northern Campus	Architecture technology
5. Bangkok Campus	Automotive and civil technology
6. Khon Kaen Campus	Machine mechanic technology
7. Nonburi Campus	Electronics technology
8. Uthen Thawai Campus	Building construction technology
9. Bangkok Commercial Campus	Business and administration
10. Chumporn Khet Udomasak Campus	Garment technology
11. Bangphra Campus	Agriculture technology
12. Thanyaburi Main Campus	Mechanical technology, post-harvest and processing engineer
13. Poh Chang Campus	Arts and crafts technology
14. Kalasin Campus	Beef cattle
15. Lampang Campus	Food science, agro-products processing
16. Nakhon Sri Thammarat Campus	Dairy farm
17. Phra Nakorn Sri Ayunthya Hantra	Fisheries

Institution	Field of Study
18. Surin Campus	Swine farm
19. Wang Klai Kangwon	Tourism, management
20. Pha Nakorn Tai	Home economics
Private College	
1. St. John College	Business administration, computer technology
2. Don Bosco College	Industrial trades

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